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INTRODUCTORY NOTES

NOTES ON TRANSLITERATION

Vowel Sounds

a has the sound of *a* in 'woman.'
ā has the sound of *a* in 'father.'
e has the vowel-sound in 'grey.'
i has the sound of *i* in 'pin.'
ī has the sound of *i* in 'police.'
o has the sound of *o* in 'bone.'
u has the sound of *u* in 'bull.'
ū has the sound of *u* in 'flute.'
ai has the vowel-sound in 'mine.'
au has the vowel-sound in 'house.'

It should be stated that no attempt has been made to distinguish between the long and short sounds of *e* and *o* in the Dravidian languages, which possess the vowel-sounds in 'bet' and 'hot' in addition to those given above. Nor has it been thought necessary to mark vowels as long in cases where mistakes in pronunciation were not likely to be made.

Consonants

Most Indian languages have different forms for a number of consonants, such as *d*, *t*, *r*, &c., marked in scientific works by the use of dots or italics. As the European ear distinguishes these with difficulty in ordinary pronunciation, it has been considered undesirable to embarrass the reader with them; and only two notes are required. In the first place, the Arabic *k*, a strong guttural, has been represented by *k* instead of *q*, which is often used. Secondly, it should be remarked that aspirated consonants are common; and, in particular, *dh* and *th* (except in Burma) never have the sound of *th* in 'this' or 'thin,' but should be pronounced as in 'woodhouse' and 'boathook.'

Burmese Words

Burmese and some of the languages on the frontier of China have the following special sounds:—

aw has the vowel-sound in 'law.'
ö and ü are pronounced as in German.
gy is pronounced almost like *j* in 'jewel.'
ky is pronounced almost like *ch* in 'church.'
th is pronounced in some cases as in 'this,' in some cases as in 'thin.'
w after a consonant has the force of *uw*. Thus, *ywa* and *pwe* are disyllables, pronounced as if written *yuwa* and *puwe*.

It should also be noted that, whereas in Indian words the accent or stress is distributed almost equally on each syllable, in Burmese there is a tendency to throw special stress on the last syllable.

General

The names of some places—e.g. Calcutta, Bombay, Lucknow, Cawnpore—have obtained a popular fixity of spelling, while special forms have been officially prescribed for others. Names of persons are often spelt and pronounced differently in different parts of India; but the variations have been made as few as possible by assimilating forms almost alike, especially where a particular spelling has been generally adopted in English books.

NOTES ON MONEY, PRICES, WEIGHTS AND MEASURES

As the currency of India is based upon the rupee, all statements with regard to money throughout the *Gazetteer* have necessarily been expressed in rupees, nor has it been found possible to add generally a conversion into sterling. Down to about 1873 the gold value of the rupee (containing 165 grains of pure silver) was approximately equal to 2*s*., or one-tenth of a £: and for that period it is easy to convert rupees into sterling by striking off the final cipher (Rs. 1,000 = £100). But after 1873, owing to the depreciation of silver as compared with gold throughout the world, there came a serious and progressive fall in the exchange, until at one time the gold value of the rupee dropped as low as 1*s*. In order to provide a remedy for the heavy loss caused to the Government of India in respect of its gold payments to be made in England, and also to relieve foreign trade and finance from the inconvenience due to constant and unforeseen fluctuations in exchange, it was resolved in 1893 to close the mints to the free coinage of silver, and thus force up the value of the rupee by restricting the circulation. The intention was to raise

the exchange value of the rupee to *1s. 4d.*, and then introduce a gold standard (though not necessarily a gold currency) at the rate of Rs. 15 = £1. This policy has been completely successful. From 1899 onwards the value of the rupee has been maintained, with insignificant fluctuations, at the proposed rate of *1s. 4d.*; and consequently since that date three rupees have been equivalent to two rupees before 1873. For the intermediate period, between 1873 and 1899, it is manifestly impossible to adopt any fixed sterling value for a constantly changing rupee. But since 1899, if it is desired to convert rupees into sterling, not only must the final cipher be struck off (as before 1873), but also one-third must be subtracted from the result. Thus Rs. 1,000 = £100 − $\frac{1}{3}$ = (about) £67.

Another matter in connexion with the expression of money statements in terms of rupees requires to be explained. The method of numerical notation in India differs from that which prevails throughout Europe. Large numbers are not punctuated in hundreds of thousands and millions, but in lakhs and crores. A lakh is one hundred thousand (written out as 1,00,000), and a crore is one hundred lakhs or ten millions (written out as 1,00,00,000). Consequently, according to the exchange value of the rupee, a lakh of rupees (Rs. 1,00,000) may be read as the equivalent of £10,000 before 1873, and as the equivalent of (about) £6,667 after 1899; while a crore of rupees (Rs. 1,00,00,000) may similarly be read as the equivalent of £1,000,000 before 1873, and as the equivalent of (about) £666,667 after 1899.

Finally, it should be mentioned that the rupee is divided into 16 annas, a fraction commonly used for many purposes by both natives and Europeans. The anna was formerly reckoned as $1\frac{1}{2}$*d.*; it may now be considered as exactly corresponding to *1d.* The anna is again subdivided into 12 pies.

The various systems of weights used in India combine uniformity of scale with immense variations in the weight of units. The scale used generally throughout Northern India, and less commonly in Madras and Bombay, may be thus expressed: one maund = 40 seers; one seer = 16 chittaks or 80 tolas. The actual weight of a seer varies greatly from District to District, and even from village to village; but in the standard system the tola is 180 grains Troy (the exact weight of the rupee), and the seer thus weighs 2·057 lb., and the maund 82·28 lb. This standard is used in official reports and throughout the *Gazetteer*.

For calculating retail prices, the universal custom in India is to express them in terms of seers to the rupee. Thus, when prices change, what varies is not the amount of money to be paid for the

same quantity, but the quantity to be obtained for the same amount of money. In other words, prices in India are quantity prices, not money prices. When the figure of quantity goes up, this of course means that the price has gone down, which is at first sight perplexing to an English reader. It may, however, be mentioned that quantity prices are not altogether unknown in England, especially at small shops, where pennyworths of many groceries can be bought. Eggs, likewise, are commonly sold at a varying number for the shilling. If it be desired to convert quantity prices from Indian into English denominations without having recourse to money prices (which would often be misleading), the following scale may be adopted—based upon the assumptions that a seer is exactly 2 lb., and that the value of the rupee remains constant at 1*s.* 4*d.*: 1 seer per rupee = (about) 3 lb. for 2*s.*; 2 seers per rupee = (about) 6 lb. for 2*s.*; and so on.

The name of the unit for square measurement in India generally is the *bīgha*, which varies greatly in different parts of the country. But areas have always been expressed throughout the *Gazetteer* either in square miles or in acres.

MAP

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Gyāraspur (or Gārispur).—Village in the Gwalior State, Central India, situated in 23° 40′ N. and 78′ 7° E., 24 miles north-east of Bhīlsa. Population (1901), 754. Although little is known of the history of the place, the remains of ancient buildings show that its importance, as commanding the pass through which runs the old route from Mālwā to Bundelkhand, was recognized at an early date. In the sixteenth century it fell to the Gonds of Garhā Mandlā, but was taken from them by the Mughals. The actual destruction of the temples is attributed, as usual, to Aurangzeb, but may have commenced earlier. At the end of the eighteenth century it fell to the Chandel Thākurs of Bhīlsa, and under Thākur Kesrī Singh regained some of its lost importance. The remains are considerable and cover a large area. The most important are those now known as the Ath-khamba, or 'eight pillars,' which stand to the south of the present village, and are all that remains of a once magnificent temple. The pillars and also the ceiling slabs, which are still *in situ*, are richly carved, and a pilgrim's record of A.D. 982 has been cut on one of the pillars. Two other very similar collections of pillars are standing in the village, also covered with elaborate carving, one belonging to a Saivite and the other to a Vaishnavite temple. The finest ruin, however, is that of a large temple known as the Māla Devī. It is magnificently placed on a great artificial platform, on the very edge of the hill-side, with its back against the rock, and from its style must belong to the ninth or tenth century. Though originally a Vaishnavite shrine, it now contains Jain images, all belonging to the Digambara sect. The Bajranāth temple, with three shrines placed abreast, has also been appropriated by Jains, though originally Brāhmanical. North of the village lie two tanks, the larger known as the Mānsarowar, having a fine old stone dam, which is said to have been built by Mān Singh, a Gond chief. A school and a State post office are situated in the village.

[A. Cunningham, *Archaeological Survey of India*, vol. vii, p. 90; vol. xi, p. 31.]

Gyobingauk Township.—Township of Tharrawaddy District, Lower Burma, lying between 18° 7′ and 18° 32′ N. and 95° 28′ and 96° 1′ E., with an area of 431 square miles. Like most of the townships of the District, it is traversed north and south by the railway, and abuts in the east on the Pegu Yoma, its western areas being a level plain. The population was 84,327 in 1891, and 91,040 in 1901. It contains two towns, ZIGON (population, 2,074) and GYOBINGAUK; and 411 villages. The area cultivated in 1903–4 was 189 square miles, paying Rs. 2,95,000 land revenue.

Gyobingauk Town.—Head-quarters of the township of the same name in Tharrawaddy District, Lower Burma, situated in 18° 14′ N. and 95° 40′ E., on the Rangoon-Prome Railway, 109 miles from Rangoon. Population (1901), 6,030. The town suffers from scarcity of water in the dry season, but so far no systematic water-supply scheme has been started. It is one of the most important rice-trading centres on the Rangoon-Prome line of railway. It possesses one Anglo-vernacular and two vernacular private schools, two of which are aided by the municipality. Gyobingauk was constituted a municipality in 1894. The receipts and expenditure of the municipal fund to the end of 1900–1 averaged Rs 24,000 and Rs. 22,000 respectively. In 1903–4 the income was Rs. 41,000, including house and land tax (Rs. 3,400), and tolls on markets and slaughter-houses (Rs. 23,200). The expenditure in the same year was Rs. 45,000, the principal items being conservancy (Rs. 6,200), roads (Rs. 6,900), and hospitals (Rs. 3,000). The municipal hospital has eighteen beds.

Hab.—River on the western frontier of Sind, Bombay, which forms in the latter part of its course the boundary between British territory and Baluchistan. It rises opposite the Porāli river at the northern end of the Pab range, flows south-east for 25 miles, then due south for 50 miles, and finally south-west, till it falls into the Arabian Sea near Cape Monze, in 24° 54′ N. and 66° 42′ E., after a total length of about 240 miles. Except the Indus and the Gāj, it is the only permanent river in Sind. Its principal tributaries are the Sārūna, the Samotri, and the Wira Hab. As far as the Phusi pass the course is confined and narrow. Thereafter it gradually widens, and for some 50 miles from its mouth is bordered by fine pasture land. Water is always to be found in pools, but the river is not utilized for irrigation.

Habiganj Subdivision.—Subdivision in the south-west corner of Sylhet District, Eastern Bengal and Assam, lying between 23° 59′ and 24° 41′ N. and 91° 10′ and 91° 43′ E., with an area of 952 square miles. The subdivision forms a level plain intersected with numerous rivers and watercourses, into the southern portion of which low hills project from the Tippera system. The annual rainfall at Habiganj town averages only 95 inches, which is considerably less than that recorded

in most other places in the District. The population, which in 1891 was 504,592, had risen by 1901 to 555,001, an increase of 10 per cent., and the density is now 583 persons per square mile, as compared with 416 in the District as a whole. The staple food-crop is *sail*, or transplanted winter rice, and the tea industry has only recently become of importance. In 1904 there were 12 gardens with 9,990 acres under plant, which gave employment to 26 Europeans and 9,505 natives. The Assam-Bengal Railway runs through the south of the subdivision, but the rivers, of which the most important are the Barāk, KHOWAI, and Kālni, are largely used as trade routes. The subdivision is divided into the four *thānas* of Habiganj, Bāniyāchung, Mādhabpur, and Nabiganj, and contains one town, HABIGANJ (population, 5,236), the head-quarters, and 1,935 villages. The subdivisional staff is unusually strong, as the amount of business to be disposed of is large, and four Munsifs are employed on civil work. The Subdivisional Magistrate is generally a native of India. The demand on account of land revenue and cesses in 1903-4 was Rs. 2,11,000.

Habiganj Town.—Head-quarters of the subdivision of the same name in Sylhet District, Eastern Bengal and Assam, situated in 24° 23′ N. and 91° 26′ E., at the confluence of the Khowai and Barāk rivers. The nearest railway station is at Shāistaganj, 9 miles distant. Population (1901), 5,236. Like other towns in this inundated tract, it is built on the bank of the river, which is raised a little above the level of the surrounding country. It is the head-quarters of the Subdivisional Magistrate and his assistants, and of the four Munsifs who dispose of the civil business of the subdivision. The public buildings include a subsidiary jail with accommodation for 54 persons, a dispensary with 6 beds, and a high school with an average attendance of 318 boys. The town was constituted a Union under Bengal Act V of 1876 in 1881. The receipts and expenditure in 1903-4 were about Rs. 5,000. There is a considerable trade with Bengal, most of which goes by country boat. The principal imports are grain and pulse, cotton piece-goods, kerosene and other oils, and salt. The chief exports are rice, jute, mustard, linseed, and hides. The majority of the merchants are members of the Shāhā caste.

Habsān.—State in the Kolāba Political Agency, Bombay. *See* JANJĪRA.

Hadagalli.—Western *tāluk* of Bellary District, Madras, lying between 14° 46′ and 15° 14′ N. and 75° 40′ and 76° 22′ E., south and east of the Tungabhadra, with an area of 585 square miles. The population in 1901 was 92,094, compared with 104,040 in 1891. There are 87 villages, but no town. The head-quarters, after which it is named, is a village of no importance. The demand for land revenue and cesses amounted in 1903-4 to Rs. 1,81,000. A tract in the southern corner,

comprising nearly one-third of the area, is black cotton soil. Of the remainder, mixed soils occupy about two-thirds and red land one-third. It is one of the flattest *tāluks* in the District, for its many undulations are of the long and low variety, and only in two places in the south can it be said to be broken by hills. The whole drains ultimately into the Tungabhadra, the eastern half by way of the Chikka Hagari. It is perhaps the healthiest part of the District. The abrupt decline which occurred in the number of its inhabitants between 1891 and 1901 was due to the fact that in the former year the Census fell upon a date on which large crowds of pilgrims from Bombay and Mysore were assembled at the great festival at Mailār, and consequently the population as then enumerated was greatly above the normal. *Cholam* and *korra* are the staple crops; but cotton is raised on a considerable area in the south, and castor also is extensively grown. The large acreage of horse-gram, a crop which will grow on the poorest land with the lightest rainfall, and the fact that the population per acre of cultivated land is lower than in any other *tāluk*, show, however, that the land is not fertile.

Hadgaon.—Northern *tāluk* of Nānder District, Hyderābād State, with an area of 476 square miles. It is separated from the Bāsim District of Berār by the Pengangā river. The population in 1901, including *jāgīrs*, was 50,422, compared with 86,590 in 1891, the decrease being the result of the famine of 1900. Till recently it had 161 villages, of which 20 were *jāgīr*, and Hadgaon (population, 1,712) is its head-quarters. The land revenue in 1901 was 2 lakhs. The soils consist chiefly of *regar* and alluvium. In 1905 a number of villages were transferred to this *tāluk* from Nānder.

Hadiāyā.—Town in the *nizāmat* and *tahsīl* of Anāhadgarh, Patiāla State, Punjab, situated in 30° 19′ N. and 75° 34′ E., 4 miles south of Barnāla. Population (1901), 5,414, compared with 6,834 in 1881, a decrease due to the rising importance of Barnāla. It has a small trade in grain, and some manufacture of iron and carts. The town has a police post.

Hadol.—Petty State in MAHĪ KĀNTHA, Bombay.

Hāfizābād Tahsīl.—*Tahsīl* of Gujrānwāla District, Punjab, lying between 31° 45′ and 32° 20′ N. and 73° 10′ and 73° 50′ E., on the east bank of the Chenāb, with an area of 894 square miles. In 1893 thirteen estates were transferred from this *tahsīl* to Jhang. Other minor changes in boundaries were made, and lastly, the new *tahsīl* of Khāngāh Dogrān was formed out of the southern part. The population in 1901 was 216,666, compared with 237,397 for the undivided *tahsīl* in 1891. It contains the town of HĀFIZĀBĀD (population, 4,597), the head-quarters; and 393 villages. The land revenue and cesses in 1903–4 amounted to Rs. 3,00,000. The *tahsīl* consists of a riverain belt along the Chenāb, the Bāngar uplands with a light soil and fair facilities for

well-irrigation, and the Bār. The whole of the Bār and half the Bāngar are now irrigated.

Hāfizābād Town.—Head-quarters of the *tahsīl* of the same name in Gujrānwāla District, Punjab, situated in 32° 4′ N. and 73° 41′ E., on the Wazīrābād-Lyallpur branch of the North-Western Railway. Population (1901), 4,597. It was formerly a place of some importance, and is mentioned in the *Ain-i-Akbarī* as head-quarters of a *mahāl*. Hāfiz, the founder, was a favourite of the emperor Akbar. The main channel of the Chenāb Canal runs 2½ miles east of the town, and the newly irrigated land sends its produce to Hāfizābād as the nearest mart and railway station. The factory industries of the place are cotton-ginning and flour-milling, and the number of employés in the three mills in 1904 was 73. The District board maintains an Anglo-vernacular middle school and a Government dispensary. The town is administered as a 'notified area.'

Hāflang.—Head-quarters of the North Cāchār subdivision, in Cāchār District, Eastern Bengal and Assam, situated in 25° 11′ N. and 93° 1′ E. Hāflang stands on the top of a hill, on the north side of the main section of the BARAIL range. The Subdivisional Magistrate's court was transferred to this place from Gunjong in 1896, as it then began to acquire considerable importance as the head-quarters of the hill section of the Assam-Bengal Railway. The station is prettily laid out, and commands a fine view of the highest peaks of the Barail and of the surrounding ranges. The railway runs round Hāflang hill in a loop nearly 10 miles in length, though the distance through the saddle is less than half a mile. The population in 1901 was 840.

Hagari (or *Vedāvati*).—A river of Southern India, formed by two streams, the Veda and Avati, which rise in the Bābā Budan hills (Mysore), and after feeding the large Ayyankere and Madagkere tanks, thereby irrigating much land, unite to the east of Kadūr (13° 32′ N. and 76° 6′ E.). The united stream then runs north-east through Chitaldroog District, where it is dammed to form the great Māri Kanave reservoir, which is 34 square miles in extent, with 70 miles of distributary channels. East of Hiriyūr the river, which now takes the name of Hagari, turns north and passes into the Bellary District of Madras, the eastern portion of which it drains. It flows into the Tungabhadra by Hālekota after a course of 280 miles.

Haidarābād Assigned Districts.—*See* BERĀR.

Haidarābād.—District, *tāluka*, and city in Sind, Bombay. *See* HYDERĀBĀD.

Haidargarh.—Southern *tahsīl* of Bāra Bankī District, United Provinces, comprising the *parganas* of Haidargarh, Subeha, and Siddhaur, and lying between 26° 31′ and 26° 51′ N. and 81° 10′

and 81° 35′ E., with an area of 291 square miles. The population increased from 194,752 in 1891 to 202,086 in 1901. There are 373 villages, but no town. The demand for land revenue in 1903-4 was Rs. 3,37,000, and for cesses Rs. 52,000. The density of population, 694 persons per square mile, is above the District average. Across the middle of the *tahsīl* flows the Gumti between high sandy banks. South of the river the soil is clay. In 1903-4 the area under cultivation was 189 square miles, of which 75 were irrigated. Tanks or swamps are a less important source of supply than in other parts of the District.

Haidargarh.—Pass in South Kānara District, Madras. *See* HOSANGADI.

Hailākāndi. Subdivision of Cāchār District, Eastern Bengal and Assam, lying between 24° 12′ and 24° 53′ N. and 92° 26′ and 92° 46′ E., with an area of 414 square miles. It occupies the valley of the Dhaleswari, south of the Barāk, and is separated from Sylhet on the west by the Saraspur Hills. The population in 1891 was 99,869, which by 1901 had risen to 112,897, giving a density of 272 persons per square mile, as compared with 121 in the District as a whole. A large part of the subdivision consists of a flat plain producing rice; but the tea industry is also of considerable importance, and in 1904 there were on the higher ground 31 gardens with 11,353 acres under plant, which gave employment to 27 Europeans and 13,600 natives. The annual rainfall averages about 110 inches, which is considerably less than that recorded in the north of the Cāchār plains. The subdivision contains 269 villages. The head-quarters of the Magistrate in charge, who is almost invariably a European, are located at Hailākāndi. The demand on account of land revenue and local rates in 1903-4 was Rs. 1,33,000.

Hājīganj.—Village in the Chāndpur subdivision of Tippera District, Eastern Bengal and Assam, situated in 23° 15′ N. and 90° 51′ E., on the Dākātia river and Assam-Bengal Railway. Population (1901), 297. It is an important centre of river traffic. Betel-nuts and rice are exported in large quantities, while the imports include salt, kerosene oil, and tobacco.

Hājīpur Subdivision.—Southern subdivision of Muzaffarpur District, Bengal, lying between 25° 29′ and 26° 1′ N. and 85° 4′ and 85° 39′ E., with an area of 798 square miles. The subdivision is an alluvial tract, fertile and highly cultivated, containing a number of swampy depressions in the south-east. The population rose from 714,079 in 1891 to 718,181 in 1901, when there were 900 persons to the square mile. It contains two towns, HĀJĪPUR (population, 21,398), its head-quarters, and LĀLGANJ (11,502), and 1,412 villages. The chief trading centres are Hājīpur at the confluence of the Gandak with the Ganges, and Lālganj on the Gandak. BASĀRH is of interest as the

probable site of the capital of the ancient kingdom of Vaisālī. Hājīpur town figured conspicuously in the history of the struggles between Akbar and the rebellious Afghān governors of Bengal.

Hājīpur Town.—Head-quarters of the subdivision of the same name in Muzaffarpur District, Bengal, situated in 25° 41′ N. and 85° 12′ E., on the right bank of the Gandak, a short distance above its confluence with the Ganges opposite Patna. Population (1901), 21,398. It is said to have been founded about 500 years ago by Hājī Ilyās, the supposed ramparts of whose fort enclosing an area of 360 *bīghas* are still visible. The old town is said to have reached as far as Mehnār *thāna*, 20 miles to the east, and to a village called Gadaisarai on the north. Hājīpur figured conspicuously in the history of the struggles between Akbar and his rebellious Afghān governors of Bengal, being twice besieged and captured by the imperial troops, in 1572 and again in 1574. Its command of water traffic in three directions makes the town a place of considerable commercial importance. Moreover, it lies on the main line of the Bengal and North-Western Railway, which runs west from Katihār, and it is also connected by a direct branch with Muzaffarpur town. Hājīpur was constituted a municipality in 1869. The area within municipal limits is 10 square miles. The income during the decade ending 1901–2 averaged Rs. 11,000, and the expenditure Rs. 8,900. In 1903–4 the income was Rs. 13,000, mainly from a tax on houses and lands; and the expenditure was Rs. 15,000. The town contains the usual public offices; the sub-jail has accommodation for 12 prisoners. Within the area of the old fort is a small stone mosque, very plain but of peculiar architecture, attributed to Hājī Ilyās. Its top consists of three rounded domes, the centre one being the largest. They are built of horizontally placed rows of stones, each row being a circle and each circle being more contracted than the one immediately below it, until the keystone is reached, which is circular. Two other mosques and a small Hindu temple are in the town or its immediate vicinity. A Buddhist temple, surrounded by a *sarai* or resthouse, was built for the late Sir Jang Bahādur on the occasion of his visits from Nepāl.

Hājiwāh.—Estate in the Mailsi *tahsīl* of Multān District, Punjab, owned by the Khākwāni family of Multān, with an area of 94 square miles. Deriving its name from Khākār, a village near Herāt, or from an adventure in hunting the boar (*khok*), the family first appeared in Multān as companions of Humāyūn. A member of it, Alī Muhammad Khān, became *sūbahdār* of the province under Ahmad Shah Durrāni, but was deposed in 1767. Under Muzaffar Khān, Hāji Alī Muhammad Khān, a cadet of the family, was governor of Sikandarābād; and his son Mustafa Khān, one of Sāwan Mal's *kārdārs*,

supported the British during Mūlrāj's rebellion, and as *tahsīldār* of Mailsi rendered good service in the Mutiny. For this he received large grants of land. He also held a lease of the waste lands in the east of the Mailsi *tahsīl*, and to irrigate these constructed the Hājiwāh canal, which, after his death in 1869, was completed by his son Ghulām Kādir Khān. In 1880, 60,000 acres of land irrigated by the canal were conferred on the latter in proprietary right, and this grant was confirmed by deed in 1886. Under a clause in the deed Government took over the canal in 1888; but after litigation on this point, it was held by the Judicial Committee of the Privy Council in 1901 that the sons of Ghulām Kādir Khān were entitled to proprietary rights in the canal. Its management, however, is still in the hands of Government. The present holders of the estate, Muhammad Yār Khān, Ahmad Yār Khān, Hāfiz Khudā Bakhsh Khān, and Hāfiz Hāmid Yār Khān, succeeded in 1888.

Hājo.—Village in Kāmrūp District, Eastern Bengal and Assam, situated in 26° 15′ N. and 91° 31′ E., on the north bank of the Brahmaputra, 15 miles by road from Gauhāti. Population (1901), 3,803. Hājo is famous for a temple to Siva which stands in a picturesque situation on the top of a low hill. It is said to have been originally built by one Ubo Rishi, and to have been restored by Raghu Deb (A.D. 1583) after it had been damaged by the Muhammadan general Kālā Pāhār. It is an object of veneration not only to Hindus but also to Buddhists, who visit it in considerable numbers, under the idea that it was at one time the residence of Buddha. The building has some claims to architectural beauty, but was damaged by the earthquake of 1897. A staff of dancing-girls is attached to the temple, and it enjoys a grant of revenue-free land of over 12,000 acres. The *tahsīl* office and police station are situated about a mile from the village, in front of a large and shallow lake which was formed after the earthquake of 1897.

Haka.—Southern subdivision of the Chin Hills, Burma, bounded on the north by the Falam subdivision and on the south by unadministered Chin tracts. The population is composed mostly of Lais (Hakas, Klangklangs, Yokwas, &c.), and in 1901 numbered 33,896, distributed in 153 villages. Haka, with 292 houses, is the most important village in the subdivision.

Hāla.—Subdivision of Hyderābād District, Sind, Bombay, composed of the HYDERĀBĀD, TANDO ALĀHYĀR, SHĀHDĀDPUR, and HĀLA *tālukas*.

Hāla Tāluka.—*Tāluka* of Hyderābād District, Sind, Bombay, lying between 25° 22′ and 26° 6′ N. and 68° 19′ and 68° 43′ E., with an area of 503 square miles. The population rose from 91,367 in 1891 to 98,230 in 1901. It contains two towns, HĀLA (population, 4,985), the head-quarters, and MATIĀRI (6,608); and 103 villages. The density,

195 persons per square mile, exceeds the District average. Land revenue and cesses amounted in 1903-4 to 1·7 lakhs. The *tāluka*, which lies parallel to the Indus, is at a very high level and is irregular in shape, narrowing in the middle to barely 7 miles in breadth. The principal crops are *bājra*, tobacco, and cotton.

Hāla Town.—Head-quarters of the *tāluka* of the same name in Hyderābād District, Sind, Bombay, formerly known as Murtazābād, situated in 25° 49′ N. and 68° 28′ E. Population (1901), 4,985. The local trade consists chiefly of grain, piece-goods, *ghī*, cotton, and sugar. Hāla has long been famous for its glazed pottery and tiles, made from a fine clay obtained from the Indus, mixed with powdered flints. The ornamentation is brilliant and tasteful. *Sūsīs* or striped trouser-cloths, for which Hāla is also celebrated, are manufactured. The new town was built about 1800, in consequence of the old site, 2 miles distant, which is said to have been founded in 1422, being threatened with encroachment by the Indus. Khudābād, 2 miles from New Hāla, was once a favourite residence of the Tālpur chiefs, and is said to have rivalled Hyderābād in size and population. Among the antiquities round which the new town has grown up are the tomb and mosque of a Pīr or Muhammadan saint, who died in the sixteenth century, and in whose honour a fair, largely attended by Muhammadans from all parts of the province, is held twice a year. The British Government contributed Rs. 1,000 to the repair of this tomb in 1876. Hāla is situated on the Aliganj canal, and is immediately connected with the trunk road at two points. The municipality dates from 1859, and had an average income during the decade ending 1901 of Rs. 6,132. In 1903-4 the income was Rs. 7,250. The town contains a dispensary, a Subordinate Judge's court, and a boys' school.

Hālār (*Hāllāwār*).—*Prānt* or division of Kāthiāwār, Bombay. It takes its name from the Jāreja Hālla Rājputs, and includes, among others, the chiefships of NAVĀNAGAR, MORVI, GONDAL, WĀNKANER, DHROL, and RĀJKOT. The limits of the tract, which measures 7,477 square miles, are not strictly defined. It lies in the north-west of the peninsula, and embraces the level tract between the Gulf of Cutch, the *tāluka* of Okhāmandal (Baroda territory), the Bardā hills, and the Arabian Sea. Locally this area is known as Barāri. The total population in 1901 was 764,992. The total revenue in 1903-4 amounted to Rs. 60,84,835.

Hālaria.—Petty State in KĀTHIĀWĀR, Bombay.

Haldaur.—Town in the District and *tahsīl* of Bijnor, United Provinces, situated in 29° 17′ N. and 78° 16′ E., 12 miles south-east of Bijnor town. Population (1901), 5,628. The place is said to have been founded by one Halda Singh, the reputed ancestor of the Chauhans to whom it now belongs. The head of the family suffered for his loyalty

in 1857, and was rewarded with the title of Rājā. Haldaur contains a post office and a handsome house, the residence of the Chauhān proprietor. A *panchāyat* of sugar-refiners is held annually, which settles the price to be paid to cultivators for raw sugar, and the rate so fixed is accepted as a standard over the whole District. The primary school has 40 pupils, and two aided schools have 94 pupils.

Haldī.—Town in the Rasrā *tahsīl* of Balliā District, United Provinces, situated in 26° 6′ N. and 83° 56′ E., on the right bank of the Gogra. Population (1901), 5,269. Haldī is the head-quarters of the tract originally owned by the Chaubariā Rājputs. It has a considerable trade in timber, imported from the Gorakhpur forests. The school has 56 pupils.

Haldībāri.—Town in the Cooch Behār State, Bengal, situated in 26° 21′ N. and 88° 49′ E., on the Eastern Bengal State Railway, 292 miles from Calcutta. Population (1901), 1,112. Haldībāri is an important centre of the jute trade, and several European firms have branches established here.

Haldipur.—Village in the Honāvar *tāluka* of North Kanara District, Bombay, situated in 14° 20′ N. and 74° 28′ E., 5 miles north of Honāvar town. Population (1901), 5,109. It is defended on the sea side by Basavrājdurg, better known as the Fortified Island, about half a mile from the coast. Haldipur has a large number of Hindu temples, at three of which car processions take place annually. A fair attended by 5,000 to 6,000 people is held in March. Under the kings of Bednur (1570–1763) and Mysore (1763–1800) it was the head-quarters of the Honāvar *tāluka*. In 1801 Buchanan found it an open town, with 352 houses, to the east of a considerable creek running through the plain. Its old name of Handipur or 'hog town' was changed by Haidar Alī to Haldipur or 'turmeric town.'

Haldwānī.—Head-quarters of the Bhābar tract of Nainī Tāl District, United Provinces, situated in 29° 13′ N. and 79° 32′ E., on the road from Bareilly to Nainī Tāl and on the Rohilkhand and Kumaun Railway. Population (1901), 6,624. The name is derived from the *haldu* trees (*Adina cordifolia*) which abound in the neighbourhood. Haldwānī was founded in 1834 as a mart for the hill people who visit the Bhābar in the cold season. It has now become the winter head-quarters of the officers of the Kumaun Division and of Nainī Tāl District. Besides the offices, it contains a small jail and a dispensary, and is the head-quarters of a *tahsīldār*. Between 1897 and 1904 Haldwānī was administered as a municipality, the income and expenditure during the four years ending 1901 averaging Rs. 9,700 and Rs. 9,100 respectively. In 1903–4 the income was Rs. 14,000, the chief item being rents and fees (Rs. 5,500); and the expenditure was Rs. 13,000. In 1904 Haldwānī was constituted a 'notified area.' It is the principal

mart in the Bhābar, exporting oilseeds, forest produce, and the products of the hills. There are two schools with 77 pupils.

Halebīd.—Village in the north-east of the Belūr *tāluk* of Hassan District, Mysore, situated in 13° 13′ N. and 76° 0′ E., 18 miles south-west of Bānāvar railway station. Population (1901), 1,524. *Halē-bīdu*, 'old capital,' marks the site of Dorasamudra or Dvārāvatipura, the capital of the Hoysala kings, founded early in the eleventh century. The city was taken by the Muhammadan general Malik Kāfūr in 1310, and plundered of immense wealth. In 1326 another Musalmān army carried off what remained, and totally destroyed the city. Its splendour is attested not only by the fabulous riches obtained from its conquest, as stated by Muhammadan historians, but by its architectural monuments, which still rank among the masterpieces of Hindu art. The most remarkable are the Hoysalesvara and Kedāresvara temples, the latter unfortunately in ruins. The Hoysalesvara, though never completed, was praised in the highest terms by Fergusson, as a foremost example of Hindu architecture. There are also some striking Jain *bastis*, but these are not decorated with the lavish sculpture of the other temples. Traces of different parts of the old city are still pointed out.

Hālisahar.—Town in the Barrackpore subdivision of the District of the Twenty-four Parganas, Bengal, situated in 22° 56′ N. and 88° 29′ E., on the east bank of the Hooghly. Population (1901), 10,149. It was formerly called Kumārhāta, and is a noted home of *pandits*; among other devotees of Gaurānga, Rām Prasād Sen lived here. It was constituted a municipality in 1903. The income for six months of 1903–4 was Rs. 4,200, of which Rs. 1,600 was derived from a tax on persons (or property tax), Rs. 1,400 from a conservancy rate, and Rs. 900 from a tax on houses and lands. During the same period the expenditure amounted to Rs. 2,300. At KĀNCHRĀPĀRA within this municipality are the workshops of the Eastern Bengal State Railway.

Haliyāl Tāluka (or Supa).—Northern *tāluka* of North Kanara District, Bombay, lying between 14° 54′ and 15° 32′ N. and 74° 15′ and 74° 55′ E., with an area of 1,057 square miles, including the Supa petty subdivision (*petha*). It contains two towns, of which HALIYĀL (population, 4,992), the head-quarters, is the larger; and 237 villages. The population in 1901 was 56,130, compared with 63,348 in 1891. Haliyāl is one of the most thinly populated *tālukas* in the District, with a density of only 53 persons per square mile. The demand for land revenue in 1903–4 was 1·05 lakhs, and for cesses Rs. 7,000. The *tāluka* consists of a waving upland, seamed by the river Kālīnadī and its tributaries. The north and east form an open plain. The staple crops are rice and sugar-cane. Forests of teak, black-wood, and

bamboo cover a large part. Haliyāl has a smaller rainfall than any other *tāluka* in the District, the annual average being only 47 inches.

Haliyāl Town.—Head-quarters of the *tāluka* of the same name in North Kanara District, Bombay, situated in 15° 20′ N. and 74° 46′ E., 9 miles from the Alnāvar station on the Southern Mahratta Railway. Population (1901), 4,992, including suburbs. Colonel Wellesley, afterwards the Duke of Wellington, visited Haliyāl, and speaks highly in his Dispatches of its importance as a frontier post. The Haliyāl timber dépôt supplied the best bamboo, teak, and black-wood of the North Kanara jungles before the opening of the new dépôt at Tāvargatti. The municipality, which dates from 1865, had an average income during the decade ending 1901 of Rs. 8,400. In 1903–4 the income was Rs. 8,700. The town contains a dispensary and four schools.

Hālol.—Head-quarters of the petty subdivision (*petha*) of the same name in the Kālol *tāluka* of the Panch Mahāls District, Bombay, situated in 22° 30′ N. and 73° 29′ E., on the high road to Jāmbughoda, about 7 miles south of Kālol and 4 north-west of Pāvāgarh hill Population (1901), 2,819. Besides well-to-do Kunbī cultivators, the largest class in the village, there are Vānia traders carrying on business in grain and forest produce with Jāmbughoda, and in hardware, tobacco, and cloth with Godhra and Baroda. At Hālol is said to have been (1484) the most beautiful of all the gardens for which Chāmpāner was famous. The chief relic of its former prosperity as a suburb of Chāmpāner is a reservoir of considerable size to the north-east. Near the present site is a mausoleum, which was described in 1785 as consisting of two large and five small domed structures, all of admirable workmanship, the two larger containing marble tombs adorned with excellent skill. Since then some of the domes have fallen, but in other respects the buildings are in good repair. They were raised by Bahādur Shāh (1526–37) in honour of his brother Sikandar Shāh, who was murdered by Imād-ul-mulk in 1526 (May 30) after a reign of three months and seventeen days. The mausoleum contains two other tombs—one to Nasīr Khān, the other to Latīf Khān, both of them brothers of Bahādur Shāh, who died in the same year (1526). The town contains a dispensary, and two schools for boys and one for girls, attended by 181 and 51 pupils respectively.

Halsi (or Halasige).—Village in the Khānāpur *tāluka* of Belgaum District, Bombay, situated in 15° 32′ N. and 74° 36′ E., about 10 miles south-east of Khānāpur. Population (1901), 2,192. Halsi stands on an ancient site, which was the chief capital of the early Kadambas (A.D. 500) and a minor capital of the Goa Kadambas (980–1250). Two large temples (Varāhnarsingh's and Suvarneshwar's) stand in the village, and a third (Rāmeshwar's) on a hill about 2 miles to the west.

There is an inscription, dated A.D. 1169, on the temple of Varāhnarsingh. About 1860, six copperplates were found in a mound close to a small well called Chakratīrth, on the Nandgad road, about 3 miles north of Halsi, recording grants by an old dynasty of Kadamba kings, whose capitals were at Banvāsi and Halsi, and who were Jains by faith. They may be assigned to about the fifth century A.D. Halsi is also called Palashika, Palshi, and Halasige in inscriptions. The village contains a boys' school with 66 pupils.

Halvad.—Fortified town in the State of Dhrāngadhra, Kāthiāwar, Bombay, situated in 23° 1′ N. and 71° 14′ E., 85 miles south-west of Ahmadābād. Population (1901), 5,312. Halvad was once the capital of the State, and is said to resemble a plough in shape, its name being popularly derived from this peculiarity. It possesses a fine palace built on the Sāmatsar lake, and a number of *satī* memorial stones with several old temples.

Hamīrpur District.—District in the Allahābād Division of the United Provinces, lying between 25° 5′ and 26° 7′ N. and 79° 17′ and 80° 21′ E., with an area of 2,289 square miles. It is bounded on the north by the Jumna, which separates it from Cawnpore and Fatehpur, and by the Betwā, which divides it from Jālaun and the Native State of Baonī; on the west the Dhasān separates it from Jhānsi; on the south lie the States of Alipurā, Chhatarpur, and Charkhārī; and on the east the District marches with Bāndā. The Native States of Sarīlā, Jignī, and Behat, and portions of Charkhārī and Garrauli form *enclaves*, entirely surrounded by British territory. Hamīrpur lies chiefly in the great plain of Bundelkhand, which stretches between the banks of the Jumna and the outer scarps of the Vindhyan plateau. The hilly southern region is broken by scattered outlying spurs and isolated hills, some distance from the main Vindhyan range, which does not enter the District.

Physical aspects.

Their general elevation does not exceed 300 feet above the Jumna valley, or about 800 feet above the sea. Though the hills are usually treeless, the scenery is picturesque, owing to their rugged outlines, and some of the artificial lakes are exceptionally beautiful. These magnificent reservoirs were constructed by the Gaharwār and Chandel Rājās, before the Muhammadan conquest, as sheets of ornamental water, and consist of valleys or depressions hemmed in by rocky hills and massive artificial dams. Some of them enclose craggy islets or peninsulas crowned by the ruins of granite temples. The largest lake near MAHOBĀ has a circumference of more than 4 miles; and several lakes are used for irrigation. North of the hill and lake country the plain spreads in an arid and almost treeless level towards the banks of the rivers. Of these, the principal are the Betwā, and its tributary the Dhasān, neither of which is navigable. The chief drainage channel

in the centre of the District is the Birmā Nadī, a tributary of the Betwā.

Most of the District consists of Gangetic alluvium, which conceals the underlying rocks, except in the southern hills, where the Bundelkhand gneiss is exposed.

The District is remarkable for the absence of trees. At the commencement of the eighteenth century one-third of it was densely wooded, but the jungle has been largely cleared. In the lower hills and valleys *khair* (*Acacia Catechu*), *sej* (*Lagerstroemia parviflora*), *dhawā* (*Anogeissus latifolia*), and *tendū* (*Diospyros tomentosa*) are the most valuable trees, but are of poor quality. In the plains the tamarind, *nīm* (*Melia Azadirachta*), and *mahuā* (*Bassia latifolia*) are commonly found. The mango is rare.

Leopards, hyenas, wolves, jackals, antelope, and hog are fairly common, while a few *sāmbar* and *chītal* are also found. The usual game birds occur, and fish, including mahseer, are common in the rivers and lakes.

The climate of Hamīrpur is dry and hot, owing to the absence of shade and the bareness of the soil.

The annual rainfall averages about 36 inches, varying from 33 in the north to 39 in the south. In 1868-9 only 17 inches were received, and in 1894-5 more than 56 inches.

History.

The earliest traditions connected with the District relate that it was ruled by Gaharwār Rājputs, to whom the construction of some of the embankments forming the lakes is attributed. They were followed by the Parihārs, to whom succeeded the Chandels about the middle of the ninth century. During the Chandel supremacy in BUNDELKHAND, MAHOBĀ in the south of Hamīrpur District was one of the chief capitals of that dynasty. The Chandels adorned the town and its neighbourhood with many splendid edifices, remains of which still exist; they also constructed some of the noble artificial lakes already described. In 1182 Parmāl Deva was defeated by Prithwī Rāj, the Chauhān ruler of Delhi; after which disaster the Chandel princes abandoned Mahobā and sank in importance, though they still occupied the hill fort of KALINJAR in Bāndā District. About twenty years later Mahobā was conquered by Kutb-ud-dīn, and with occasional interruptions remained in the hands of the Musalmāns till the close of the seventeenth century.

In 1680 the District came into the possession of Chhatarsāl, the great national hero of the Bundelās, and was the theatre of many battles during his long struggle with the imperial forces under Muhammad Khān, the Bangash Nawāb of Farrukhābād and governor of Allahābād. On his death about 1734 he bequeathed to his ally, the Peshwā of the Marāthās, one-third of his territories; and Mahobā formed a portion

of the region so granted. The larger part of the present District of Hamīrpur fell to his son, Jagat Rāj. During the next seventy years the District continued under the government of his descendants, who, however, carried on among themselves that intestine warfare which was universal in Bundelkhand throughout the latter half of the eighteenth century. Rival Rājās had forts in every village, and one after the other collected their revenue from the same estates. Moreover, the Bundelā princes were opposed by the Marāthā chieftains; and Alī Bahādur, an illegitimate descendant of the Peshwā, who had made himself Nawāb of Bāndā, succeeded in 1790 in annexing a portion of the District. He was defeated by the British and died in 1802. The British District of Bundelkhand was formed in the succeeding year (1803), a part being granted to our ally, Himmat Bahādur, as the price of his allegiance. The town of Mahobā itself, with the surrounding country, remained in the hands of the Pandits of Jālaun, until, on the death of their last representative in 1840, it lapsed to the British. The *pargana* known as Jaitpur was ruled by the descendants of Chhatarsāl until 1842, when the last Rājā, believing that our reverses at Kābul would prove fatal to British rule, revolted, and having been easily captured was removed to Cawnpore, receiving a pension of Rs. 2,000 a month. Jaitpur was handed over to another claimant, who mortgaged it to the Government, and died without issue in 1849. His territories lapsed, and have since formed part of Hamīrpur. The later history of the District up to 1857 is chiefly concerned with the difficulties of fiscal administration, which will be described later.

On the outbreak of the Mutiny, Hamīrpur exhibited the same return to anarchy which characterized the whole of Bundelkhand. On June 13, 1857, the 53rd Native Infantry broke into mutiny, and the massacre of Europeans began the next day. Only one Christian escaped with life. The surrounding native chiefs set up rival claims to portions of the British territory and plundered all the principal towns. The Charkhāri Rājā alone maintained a wavering allegiance, which grew firmer as the forces of General Whitlock approached Mahobā. That town was reached in September, 1858, and the fort of Srīnagar was destroyed. After a short period of desultory guerrilla warfare in the hilly regions of Bundelkhand, the rebels were effectually quelled and the work of reorganization began.

The most important remains of the Chandels in this District are at MAHOBĀ, but the finest temple of large size is the three-steepled granite edifice at Makarbai, 8 miles away.

Population.

Hamīrpur contains 7 towns and 756 villages. Population is liable to considerable variations, owing to vicissitudes of season. The numbers at the last four enumerations were: (1872) 529,137, (1881) 507,337, (1891) 513,720, and (1901)

458,542. There are five *tahsīls*—HAMĪRPUR, RATH, KULPAHĀR, MAHOBĀ, and MAUDAHĀ—each named after its head-quarters. The principal towns are RĀTH, MAHOBĀ, and HAMĪRPUR, the District head-quarters. The following table gives the chief statistics of population in 1901:—

Tahsīl.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hamīrpur	376	2	124	71,625	190	– 11.7	2,800
Rāth	574	1	179	125,731	219	– 0.9	3,990
Kulpahār	558	2	231	111,926	201	– 12.3	3,003
Mahobā	329	1	92	61,938	188	– 16.5	2,081
Maudahā	452	1	130	87,322	193	– 15.9	3,333
District total	2,289	7	756	458,542	200	– 10.9	15,207

The considerable decrease between 1891 and 1901 was due to a series of bad seasons, culminating in the famine of 1895–7. The density of population is approximately the same as that of the surrounding Bundelkhand Districts, but is less than half the Provincial average. Almost the whole population speak Western Hindī, the prevailing dialect being Bundelī, which is, however, mixed with Baghelī.

Chamārs (tanners and cultivators), 64,000, are the most numerous Hindu caste; followed by Lodhīs or Lodhas (agriculturists), 53,000; Brāhmans, 49,000; Ahīrs, 31,000; Rājputs, 27,000; and Kāchhīs, 24,000. Basors, numbering 11,000, who perform low menial duties, and Khangārs, 7,000, who are watchmen and thieves, though they claim to have once held the country, are not found outside the District in considerable numbers. Agriculture supports 64 per cent. of the population, and general labour 6 per cent. Brāhmans, Rājputs, and Lodhas are the chief holders of land; and the same castes, followed by Kāchhīs and Chamārs, are the principal cultivators.

A mission was opened at Mahobā by an American society in 1895, and there are branches at Rāth and Maudahā; but in 1901 there were only 223 native Christians in the District.

The most important distinction between different parts of the District follows the distribution of different classes of soil. These fall into two main classes: the black or heavy soils, and the light soils. The former are called *mār* and *kābar*, and the latter *parwā*; but near the rivers, where denudation has impoverished the soils, a coarse gravelly soil is found, called *rākar*. In the north of the District the black soils predominate, while in the south there is a great deal of poor light soil overlying the rocks. *Mār* is the most fertile soil, and retains moisture for a long time, though an excess of

Agriculture.

rain makes it unworkable. *Kābar* differs from *mār* in that it is more easily affected by either excess or deficiency of rainfall. The autumn crops, which are usually sown broadcast, cover a larger area than the spring harvest.

The ordinary tenures of the United Provinces are found, but *pattīdāri* and *bhaiyāchārā mahāls* predominate: some of the latter are extraordinarily large. The main agricultural statistics for 1903-4 are given below, in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated	Cultivable waste
Hamīrpur	376	183	2	113
Rāth	574	329	2	95
Kulpahār	558	257	17	175
Mahobā	329	133	5	133
Maudahā	452	230	2	140
Total	2,289	1,132	28	656

NOTE.—Statistics for the Hamīrpur and Maudahā *tahsīls* are for 1902-3.

Gram and *jowār* are the principal food-crops, covering 279 and 265 square miles respectively, or 25 and 23 per cent. of the net cultivated area. Oilseeds (240 square miles) and cotton (84) are the most important non-food crops; while *arhar*, *kodon*, wheat, *bājra*, and barley cover 94, 43, 76, 43, and 34 square miles. A little sugarcane is grown in the south and west, and *pān* is cultivated in the south.

Like all the Bundelkhand Districts, Hamīrpur is subject to cycles of varying agricultural prosperity, and no permanent advance can be traced. Either excess or deficiency of rainfall causes land to remain untilled; and the result is the spread of a grass called *kāns* (*Saccharum spontaneum*), which cannot be eradicated without much trouble, though it dies out after a varying period of ten to fifteen years. The spring crops are also liable to rust. The most striking change in recent years was the replacement of wheat by gram or millet, both inferior crops, after the famine of 1895-7; but the area under wheat is again increasing. A valuable red dye was formerly obtained from a plant called *āl* (*Morinda citrifolia*); but its cultivation has ceased owing to the introduction of aniline colours. Considerable sums have been advanced under the Land Improvement and Agriculturists' Loans Acts, amounting to a total of Rs. 2,64,000 during the ten years ending 1900, of which 2 lakhs was advanced in the three bad years 1896-8. Between 1901 and 1904 the total advances were Rs. 82,000.

In 1867 six bulls were imported from Hānsi and Hissār, but the cross had little effect in improving the District breed, which is on the whole inferior. Renewed attempts have recently been made to

introduce a better strain. No horse-breeding operations are carried on. The sheep and goats are superior to those bred in the Doāb, and are thus in some request outside the District.

The water-supply is defective in almost every part, and difficulties sometimes occur in supplying water for cattle. It has already been stated that the black soils retain moisture, and with ordinary seasons irrigation is not much required in them. In 1903-4 the total irrigated area was 28 square miles, of which 4 square miles were supplied by a branch of the Betwā Canal in the north of the District, and 1 square mile by the artificial lakes in the south. Wells supplied 22 square miles, being most used in the light *parwā* soil in the central and southern parts. A project for a canal from the Dhasān near the south-west corner of the District has been sanctioned; it will water the western portion between the Birmā and the Dhasān.

Soapstone is quarried at one place, and used for making toys, parts of *hukkas*, vases, &c. The roads in the south are metalled with broken granite, and elsewhere with *kankar* or nodular limestone, which is also used for making lime.

Hamīrpur District is almost entirely agricultural, and beyond the few requirements of the people which can be satisfied locally, there are few industries. Coarse red cotton cloth is the only important manufacture, and the silver ware of Maudahā is the sole product of artistic merit. A little saltpetre is made in places. There are small cotton-presses at Kulpahār and Mahobā, and at the former place hay is pressed into bales for export.

Trade and communications.

The noticeable feature in the trade of the District is the absence of large central markets. *Jowār*, *bājra*, wheat, gram, cotton, *ghī*, *pān*, oilseeds, and cloth are exported in favourable seasons; while sugar, tobacco, spices, rice, salt, piece-goods, and metals are imported. The trade of the north of the District is by road with Cawnpore, while the railway carries the produce of the southern part. RĀTH is the most important trade centre, and the other markets are essentially local, merchants or their agents dealing on the spot with the cultivators and small village traders.

The Midland branch of the Great Indian Peninsula Railway from Jhānsi to Mānikpur passes through the south of the District. The roads have recently been improved, but communications are still backward, and during the rains many of the unmetalled roads become almost impassable. About 100 miles are metalled, of which 55 are maintained at the cost of Provincial revenues, and 419 miles are unmetalled. Avenues of trees are kept up on 122 miles of road. The principal routes are the roads from Cawnpore through Hamīrpur town, Maudahā, and Mahobā to Saugor; from Hamīrpur, through Rāth, to Harpālpur

and Kulpahār railway stations; and from Hamīrpur through the east of the District to Panwārī on the railway.

The District appears to have escaped the terrible famines of 1783 and 1803-4. In 1813-4, however, it suffered severely, and again in 1819 the food supply failed, though the people had money, gained by the high prices of cotton in previous years. A succession of bad seasons culminating in the drought of 1833-4 led to famine, pestilence, and emigration, which reduced the population by a half, and were long remembered. Distress was less severe in 1837-8, but was still great. The District escaped famine in its worst form till 1868-9, when the failure of the rains caused the loss of the harvest, and people were reduced to eating the refuse of oilseeds, and roots and herbs. There was also great mortality among the cattle. The drought of 1877-8 did not seriously affect Hamīrpur. Early in 1894 rust damaged the spring crops, and the rains of that year destroyed the autumn harvest. In 1895 rust was again bad, and the rains ceased prematurely, causing much distress. Relief works were required early in 1896, and the still shorter rainfall of that year caused severe famine. The works were kept open till August, 1897, at a total cost of nearly 9 lakhs, besides expenditure on relief by other methods.

Famine.

The Mahobā and Kulpahār *tahsīls* are included in the subdivision of Mahobā, which is usually in charge of a resident Joint-Magistrate. The Collector is also assisted by two Deputy-Collectors recruited in India, and a *tahsīldār* is stationed at the head-quarters of each *tahsīl*.

Administration.

There is one District Munsif, and the whole District is included in the Civil and Sessions Judgeship of Bāndā. In former times Hamīrpur was noted for dacoity and robberies; but crime is not exceptionally serious now. The escape of criminals is, however, facilitated by the way in which Native and British territory are intermingled. Female infanticide was formerly suspected, but no villages have been under surveillance since 1900.

Most of the present District was acquired in 1803-4, when it was included in the District of Bundelkhand. In 1819 this was divided into a northern and southern portion, the former, called Kālpī, including parts of the present Jālaun District and the northern parts of Hamīrpur. In 1821 the head-quarters were moved to Hamīrpur town. The Marāthā method of administration was briefly a system of rack-rent pitched at the highest rate which could be paid. The earliest settlements, though based on the *tahsīldārs'* unreliable estimates and the village papers, were moderate and well distributed. From 1810, however, enhancements were made, and in 1816 the revenue of that portion of the District which was then British territory was raised

from 9¾ to 14·7 lakhs. In the succeeding short-term settlements the revenue, though reduced, was still excessive; and after the famine of 1833–4 half the estates in the District had been resigned by their proprietors. Speculations in land and corruption among the native officials added to the difficulties of administration. The first regular settlement, preceded by a professional survey, was made in 1842 for most of the District; the southern portions, which were acquired subsequently, being regularly settled at later dates. The assessment was based on rates which had been fixed for a large part of Bundelkhand; it was moderate and worked well. The demand for the area referred to above was 9·8 lakhs, and the demand for the whole District 10·8 lakhs. This demand was revised in 1877–9, when the revenue fixed amounted to 10·7 lakhs. Soil rates were framed to calculate the 'assets,' and the valuation was revised with reference to the recorded rental, fiscal history, and actual condition of each village. The term of settlement was twenty years, and in 1893 it was decided to prolong this period for ten years more. The famine of 1895–7, however, led to extensive reductions, and an experiment was made in fluctuating assessments. In 1905 the whole District came under settlement according to the new system devised for Bundelkhand, by which the revenue will be liable to revision every five years in case of considerable variations in cultivation. The present demand for land revenue is 8·2 lakhs, or an incidence of less than 11 annas per acre, varying in different parts from 8 annas to R. 1.

Collections on account of land revenue and total revenue have been, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	10,68	10,77	9,76	7,74
Total revenue . .	11,65	13,83	12,50	9,94

No municipalities have been constituted, but seven towns are administered under Act XX of 1856. Local affairs beyond the limits of these are managed by the District board, which in 1903–4 had an income and expenditure of 1·2 lakhs. The expenditure includes Rs. 75,000 on roads and buildings.

There are 21 police stations. The District Superintendent of police controls a force of 3 inspectors, 79 subordinate officers, and 334 constables, besides 86 town police, and 1,161 rural and road police. The District jail contained a daily average of 79 prisoners in 1903.

Hamīrpur compares favourably with other Districts in the United Provinces as regards literacy. This is the more remarkable in a purely agricultural community. In 1901, 3·3 per cent. (6·5 males and 0·1

females) could read and write. The total number of public schools rose from 91 in 1880–1 to 98 in 1900–1, and the number of pupils from 3,551 to 3,720. There were 131 such schools in 1903–4, with 4,993 pupils, including 64 girls, besides 52 private schools with 708 pupils. Only 955 out of the total number were in secondary classes. Two of the schools are managed by Government and 97 by the District board. Out of a total expenditure on education of Rs. 32,000, only Rs. 2,600 was met from fees and the balance was charged to Local funds.

There were five dispensaries and hospitals in 1903, with accommodation for 64 in-patients. In 1903 the number of cases treated was 26,000, including 575 in-patients, and 1,100 operations were performed. The expenditure was Rs. 5,400, chiefly met from Local funds.

About 21,000 persons were successfully vaccinated in 1903–4, representing the high proportion of 45 per 1,000 of population, although vaccination is not compulsory in any part of the District.

[*District Gazetteer*, 1874 (under revision); W. E. Neale, *Settlement Report*, 1880.]

Hamīrpur Tahsīl.—North-eastern *tahsīl* of Hamīrpur District, United Provinces, comprising the *parganas* of Hamīrpur and Sumerpur, and lying between 25° 42′ and 26° 7′ N. and 79° 51′ and 80° 21′ E., with an area of 376 square miles. Population fell from 81,133 in 1891 to 71,625 in 1901. There are 124 villages and two towns: HAMĪRPUR (population, 6,721), the District and *tahsīl* head-quarters, and Sumerpur (4,039). The demand for land revenue in 1904–5 was Rs. 1,34,000, and for cesses Rs. 28,000. The density of population, 190 persons per square mile, is slightly below the District average. On the north flows the Jumna, while the Betwā runs almost due east through the centre of the *tahsīl* to join it. The soil is chiefly fertile, but becomes lighter near the junction of the two rivers, and a network of ravines fringes the banks of both the Jumna and the Betwā. In 1902–3 only 2 square miles were irrigated, out of 183 square miles under cultivation. The Betwā Canal serves a small area in the north.

Hamīrpur Town.—Head-quarters of the District and *tahsīl* of the same name, United Provinces, situated in 25° 58′ N. and 80° 9′ E., on a tongue of land near the confluence of the Betwā and Jumna, and on the metalled road from Cawnpore to Saugor. Population (1901), 6,721. According to tradition, it was founded in the eleventh century by Hamīr Deo, a Karchulī Rājput expelled from Alwar by the Muhammadans. Under Akbar it was the head-quarters of a *mahāl* or *pargana*. The ruins of Hamīr's fort and a few Musalmān tombs are the only relics of antiquity. Several Europeans were murdered here during the Mutiny. Besides the usual public offices, there is a dispensary. The

town is administered under Act XX of 1856, with an income of about Rs. 2,100. There is a little trade in grain. The District school has 64 pupils, and a middle school 142.

Hamīrpur Tahsīl.—*Tahsīl* of Kāngra District, Punjab, lying between 31° 25′ and 31° 58′ N. and 76° 9′ and 76° 44′ E., with an area of 602 square miles. It is bounded on the south by Bilāspur State and on the east by Mandī State, and lies between the Beās on the north and the Sutlej on the south. The north-east corner is rugged and inaccessible, and the Sola Singhi range runs along the south-west border. Broken masses of hills cover almost all the *tahsīl*, but in some parts there are stretches of fairly level ground. The population in 1901 was 161,424, compared with 162,705 in 1891. It contains 64 villages, including Hamīrpur, the head-quarters, and SUJĀNPUR TIRA. The land revenue and cesses amounted in 1903-4 to 1·9 lakhs.

Hampi.—Village in Bellary District, Madras. Site of VIJAYANAGAR.

Hāmūn-i-Lora. A depression in the Chāgai District of Baluchistān, lying between 29° 8′ and 29° 37′ N. and 64° 44′ and 64° 59′ E. It is about 38 miles long, with an average breadth of 6 miles. It receives the spill of the Pishīn Lora, but, except after heavy rains, can be crossed in any direction. The surface is white and impregnated with salt. Small rocky hills rise to the south, the principal being Kaftār and Gaukoh.

Hāmūn-i-Māshkel.—A large depression on the western frontier of Baluchistān, lying between 28° 2′ and 28° 30′ N. and 62° 36′ and 63° 27′ E. Its length from east to west is about 54 miles, and its breadth varies from 8 to 22 miles. It receives drainage from the south, east, and north, the principal supplies being from the Māshkel and Morjen rivers. There is never much water in it except for a short time after heavy rain. The greater part is covered with white saline efflorescence, and at Wād-i-Sultān is a small area containing good hard salt. On the north-west, and forming a separate basin, lies the Hāmūn-i-Tahlāb.

Hanamkonda.—Head-quarters of the Warangal Division and District, Hyderābād State, situated in 18° 1′ N. and 79° 34′ E., near the stations of Kāzipet and Warangal on the Nizām's State Railway. Population (1901), 10,487. According to local tradition, it was the capital of the surrounding country before the foundation of Warangal. The *Pratāp Charitrā*, a Telugu work, says that a Chālukya king reigned at Nandagiri (Nānder), on whose death the kingdom was divided between his two sons, one ruling at Hanamkonda and the other at Kandahār. Ballahundu, king of Cuttack, having killed Somadeo, the king of Kandahār, Siriyal Devī, wife of the latter, fled to Hanamkonda, and gave birth to a posthumous son, Mādhava Varma, who succeeded to the throne as the first king of the Kākatīya line. This event is placed about A.D. 314, but the Kākatīyas are not referred to in authentic

records before the middle of the twelfth century (*see* WARANGAL DISTRICT). Hanamkonda contains some very interesting buildings, of which the 'thousand-pillared' temple is specially noteworthy. It was built in 1162 in the Chālukyan style by the last Hindu dynasty, and consists of three spacious detached halls with a portico supported by nearly 300 pillars. Opposite the portico is a star-shaped *mandapa* supported on 200 pillars, three of which bear old Telugu and Sanskrit inscriptions. Near the temple is a fine well. Around Hanamkonda several Jain figures are cut in the rocks, close to the ruined town of Hanmantgiri. There are two large tanks on each side of the town. The modern town of Hanamkonda extends from near Kāzīpet on the west to Mathwādā on the east. It contains the offices of the Sūbahdār, the Divisional and District civil courts, the District and Irrigation Engineer's offices, the survey office, several schools, a Central jail, the Tālukdār's offices, a large dispensary and two Yunāni dispensaries, an American Mission school and hospital, and a District post office.

Handiā.—North-eastern *tahsīl* of Allahābād District, United Provinces, comprising the *parganas* of Mah and Kiwai, and lying between 25° 16′ and 25° 36′ N. and 82° 2′ and 82° 21′ E., along the northern bank of the Ganges, with an area of 287 square miles. Population fell from 187,089 in 1891 to 183,281 in 1901. There are 582 villages, but no town. The demand for land revenue in 1903–4 was Rs. 3,24,000, and for cesses Rs. 52,000. The density of population, 639 persons per square mile, is considerably above the District average. Most of the *tahsīl* consists of two depressions, in which rice is largely grown. These are situated in the upland, and are separated by a high ridge. There is a little alluvial land near the Ganges. In 1903–4 the area under cultivation was 186 square miles, of which 88 were irrigated, tanks or *jhīls* supplying nearly one-third of the total, and wells the remainder.

Hāngal Tāluka.—South-eastern *tāluka* of Dhārwār District, Bombay, lying between 14° 35′ and 14° 55′ N. and 75° 1′ and 75° 20′ E., with an area of 300 square miles. It contains one town, HĀNGAL (population, 6,853), the head-quarters ; and 156 villages. The population in 1901 was 77,784, compared with 74,506 in 1891. The density, 259 persons per square mile, slightly exceeds the District average. The demand for land revenue in 1903–4 was nearly 2 lakhs, and for cesses Rs. 15,000. The country is covered with small hills overgrown with vegetation. The climate is temperate and healthy. There are numerous irrigation tanks.

Hāngal Town.—Head-quarters of the *tāluka* of the same name in Dhārwār District, Bombay, situated in 14° 46′ N. and 75° 8′ E., about 50 miles south of Dhārwār town. Population (1901), 6,853. The most interesting temple is dedicated to Tārakeshwar. About 600 yards west of modern Hāngal is a remarkable conical mound known as

Kuntina Dibba, or 'Kunti's hillock.' Hāngal, called Virātkot, Virātnagari, and Pānungal in inscriptions, is locally believed to be a place where the Pāndavas lived during part of their exile from Delhi. Until conquered by the Hoysala king Ballāl II about 1200, Hāngal was governed by the dynasty of the Kadambas as vassals of the Western Chālukyas. The town contains a dispensary and three schools, of which one is for girls.

Hangu Tahsīl (or Mirānzai).—Western *tahsīl* of Kohāt District, North-West Frontier Province, lying between 33° 19′ and 33° 36′ N. and 70° 30′ and 71° 13′ E., with an area of 546 square miles. It consists of the Mīrānzai valley, inhabited by a tribe of Bangash Pathāns, and is divided into the *tappas* of Upper and Lower Mīrānzai. Lower Mīrānzai slopes east towards Kohāt, the valley being bounded on the north by the Sāmāna range which separates it from Orakzai Tīrāh, and on the south by the low hills of the District, of which Mīr Khweli (4,500 feet) is the highest. Upper Mīrānzai slopes west towards the Kurram. On the north are the hills of the Alī Khel Orakzai, the Māmuzai, and the Zaimukhts, and on the south the Khattak hills. Both valleys are watered by perennial streams and are fertile, while the hills provide excellent grazing for sheep and goats. Upper or Western Mīrānzai was annexed in 1851, but British administration was not established till 1855. The population of the whole *tahsīl* in 1901 was 43,901, compared with 39,704 in 1891. It contains 43 villages, including HANGU, the head-quarters. The land revenue and cesses in 1903–4 amounted to Rs. 36,000.

Hangu Village.—Head-quarters of the *tahsīl* of the same name in Kohāt District, North-West Frontier Province, situated in 33° 32′ N. and 71° 5′ E. The officer in charge of the Thal subdivision has his head-quarters here. The site is a very old one, and is mentioned by the emperor Bābar in his memoirs. The Khushālgarh-Kohāt-Thal branch of the North-Western Railway has a station at Hangu, 26 miles from Kohāt. The garrison consists of a detachment of Native cavalry, the head-quarters of the Sāmāna Rifles, and (in winter) two guns of a mountain battery. The village contains a Government dispensary and a vernacular middle school maintained by the District board.

Hānsi Tahsīl.—*Tahsīl* of Hissār District, Punjab, lying between 28° 51′ and 29° 27′ N. and 75° 48′ and 76° 20′ E., with an area of 799 square miles. The population in 1901 was 178,933, compared with 165,689 in 1891. It contains the town of HĀNSI (population, 16,523), the head-quarters; and 132 villages. The land revenue and cesses in 1903–4 amounted to 2 lakhs. The whole of the *tahsīl* lies within the tract known as Hariāna. The northern part is irrigated by the Western Jumna Canal, and is comparatively well wooded. South of the canal the country is featureless, but fertile enough in a year of good rainfall.

Hānsi Town.—Head-quarters of the *tahsīl* of the same name in Hissār District, Punjab, situated in 29° 7′ N. and 75°.58′ E., on the Rewāri-Bhatinda branch of the Rājputāna-Mālwā Railway, 15 miles from Hissār. Population (1901), 16,523. This is one of the most ancient towns in Northern India, and appears to have been a stronghold of the Kushans, though local tradition attributes its foundation to Anang Pāl, the Tomar king of Delhi. According to the authorities quoted in Tod's *Rajasthan*, Asī or Hānsi was assigned to the son of Bīsaldeo Chauhān about A.D. 1000. Masūd, son of Mahmūd of Ghazni, took it, after one failure, in 1036, but, according to Firishta, it was recovered by the Delhi Rājā in 1043. Prithwī Rāj made considerable additions to the fort at Hānsi, converting it into an important military stronghold. It fell into the hands of Muhammad of Ghor in 1192, and was, until the foundation of Hissār, the administrative head-quarters of the neighbourhood. Hānsi was depopulated by the famine of 1783, and lay deserted until 1798, when the famous adventurer George Thomas, who had seized upon the greater part of Hariāna, fixed his head-quarters here. Thenceforth the town began to revive, and on the establishment of British rule in 1803 it was made a cantonment, where a considerable force, consisting chiefly of local levies, was stationed. In 1857 the troops mutinied, murdered all Europeans upon whom they could lay hands, and combined with the wild Rājput tribes in plundering the country. On the restoration of order, the cantonment was given up. A high brick wall, with bastions and loopholes, surrounds the town, while the canal, which flows at its feet, contributes to its beauty by a fringe of handsome trees. Since the Mutiny, however, the houses have fallen into decay and the streets lie comparatively deserted, owing to the removal of the troops. The ruins of the fort overlook the town on the north. It contains two mosques and the tomb of Saiyid Niāmat Ullah, killed in resisting Muhammad of Ghor. The mosque and tombs of Kutb Jamāl-ud-dīn and his successors are on the west of the town, with the tomb of Alī Mīr Tijāra. Near by is a mosque called the Shahīd Ganj, situated probably on the scene of Masūd's first unsuccessful attempt to take Hānsi.

The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 18,500, and the expenditure Rs. 18,800. In 1903–4 the income and expenditure were Rs. 30,000 and Rs. 20,000 respectively, the chief source of income being octroi. The town has 6 cotton-ginning factories, 2 cotton-presses, and 2 combined ginning and pressing factories, and is a local centre of the cotton trade. The number of factory hands in 1904 was 1,285. It possesses a vernacular middle school and a dispensary.

Hānsot.—Town in the Anklesvar *tāluka* of Broach District, Bombay, situated in 21° 35′ N. and 72° 48′ E., on the left bank of the

Narbadā, about 15 miles south-west of Broach city. Population (1901), 3,925. Hānsot was formerly the head-quarters of a *tāluka* of the same name, acquired by the British in 1775, restored to the Peshwā in 1783, and again acquired in 1803. The municipality, established in 1889, had an average income of about Rs. 5,000 during the decade ending 1901. In 1903-4 its income was Rs. 4,377. The town contains a dispensary and four schools, three (including an English school) for boys and one for girls, attended respectively by 245 and 35 pupils.

Hanthawaddy.—District in the Pegu Division of Lower Burma, lying between 16° 19′ and 17° 47′ N. and 95° 45′ and 96° 45′ E., with an area of 3,023 square miles. It is bounded on the north by Tharrawaddy District; on the east by Pegu District; and on the west by Ma-ubin and Pyapon. The southern boundary stretches along the Gulf of Martaban between the mouths of the Sittang and the To, or China Bakir, rivers. In the centre and completely surrounded by it is the separate District of RANGOON CITY, in which the District offices are situated. The Cocos and Preparis Islands in the Bay of Bengal form part of the District.

Physical aspects.

Hanthawaddy is a vast deltaic plain stretching up from the sea, broken only by spurs of the Pegu Yoma, which separates the northern portion of the District from Pegu. The spurs continue as undulating ground through the Insein subdivision, and rise slightly near Rangoon, where the summit of a small hill has been levelled to form the platform of the Shwedagon pagoda. The range appears again on the opposite side of the Pegu river at Syriam, and is finally lost in the rocks in the Hmawwun stream just opposite the village of Kyauktan. A similar ridge of high land runs from Twante to Kungyangon in the west of the District. The highest point in the Yoma has an altitude of 2,000 feet. Here the hills are clothed with fine evergreen forests, and the scenery is bold and interesting. Farther south the high land is covered with fruit gardens and, near Rangoon, is being much sought after for house sites. Excluding this portion of the District, the scenery is tame and monotonous, consisting of rice cultivation and swamp relieved by scrub jungle, and along the sea-coast and the numerous water-ways by mangrove and inferior forest growth interspersed with *dani* plantations. The coast-line is low, and at the ebb shows large dismal stretches of mud.

The main stream is the Hlaing (known farther north as the Myitmakā), which enters the District at its northern end and runs southwards through its entire length. The Hlaing, which is navigable by native craft through the whole of its course within the limits of the District, is joined in the neighbourhood of Rangoon by the Pegu river

and the Pazundaung stream from the north-east and north, and thence flows southwards under the name of the Rangoon river into the Gulf of Martaban. The District is further intersected by numerous tidal creeks, all navigable by country boats and many by river steamers. The most important of these are the Thatkutpin or Bassein creek, which connects the Rangoon river with the To, and thus with the main stream of the Irrawaddy; the Panhlaing, which during the rains, when the water is high, takes the place of the Bassein creek as the most direct route to the Irrawaddy; the Bawle river, which divides Hanthawaddy from the adjoining District of Ma-ubin; and the Hmawwun, which taps the rich rice-fields of the Kyauktan subdivision.

The plains of the delta are composed of homogeneous post-Tertiary alluvium resting on a bed of water-worn gravel, which is often found at a depth of less than 250 feet and is a good water-bearing stratum. Along the skirts of the Pegu Yoma a broad bed of sandy deposit occurs; and laterite, which is largely used for road-metalling, is found in many of the lower hills, mixed with red alluvial clay. Occasionally partially rolled pieces of fossil wood are met with. The Yoma itself is formed of beds of the Pegu group, of miocene age.

The coast-line is fringed with dense low mangrove jungle, covered regularly by the tide, and characterized specially by species of *Bruguiera* and *Rhizophora*. Behind these forests and along the borders of the tidal channels are the tidal forests, the most characteristic trees of which are *Sonneratia apetala* and *Avicennia tomentosa*. These forests average 40 to 50 feet in height, and have a thick shrubby growth, similar to that of the mangrove forests. *Nipa fruticans* and *Pandanus foetidus* form dense bushes, and *Phoenix paludosa* is very common. Creepers and climbers abound, including *Acanthus volubilis*, *Flagellaria indica*, &c. Behind this zone are either open evergreen tropical or low deciduous forests. Among the former are found *Parashorea stellata*, *Pentace burmannica*, *Albizzia lucida*, *Lagerstroemia tomentosa*, and *Dillenia parviflora*, and many varieties of shrubs and climbers. The low deciduous forests contain *Dillenia pulcherrima*, *Shorea leucobotrya*, *Pentacme siamensis*, *Melanorrhoea usitata*, *Xylia dolabriformis*, *Lagerstroemia macrocarpa*, *Albizzia lucida*, and *Strychnos Nux-vomica*. The undergrowth is usually composed of scanty andropogonous grasses. The savannah forests are distinguished by the great growth of elephant-grasses, among which the trees grow up apart from one another; they include *Butea frondosa*, *Ficus fistulosa*, *Terminalia crenata*, *Dalbergia cultrata*, *Dalbergia purpurea*, *Lagerstroemia Flos Reginae*, and *Strychnos Nux-vomica*.

In the Yoma, elephants, bison, *tsine* or *hsaing* (*Bos sondaicus*), and various kinds of deer are common; rhinoceros are rare. There are indications that tigers and leopards are increasing in consequence

of the disarmament of the country, and their frequent appearance near Rangoon and the railway has lately caused annoyance. The fish-eating monkey and the short-nosed crocodile are at times seen along the tidal creeks.

The climate is moist and depressing, but on the whole not unhealthy. From the middle of March until the rains break in May the heat is excessive; and at the end of the rains, in September and October, the nights are oppressive, and the days often muggy and trying. December and January are cool and pleasant, the average minimum being about 60°. The southern portion of the District is cooled by the sea-breeze, and the maximum temperature, which varies between 83° and 95°, increases in the north towards the drier zone of Tharrawaddy.

The average annual rainfall at the recording stations is as follows: 94 inches at Insein, 98 inches at Rangoon, and 119 inches at Kyauktan. The rainy season lasts, as elsewhere, from May to October inclusive; a spell of two or three days' rain in early spring is not uncommon, and is a source of great inconvenience to the cultivators, whose grain at this time is usually on the unprotected threshing-floors.

The country to the west of the Hlaing river is subject to inundation, especially in the north of the District. There were floods disastrous to cultivation in 1877, which have recurred in a smaller degree on several occasions. Abnormally high spring-tides, when the wind is in the south, sometimes damage the rice-fields bordering the sea. The District is, however, safe from famine, as the water-supply, although poor in many places in the dry season, is seldom seriously deficient.

The name Hanthawaddy is derived from *hantha* or *hintha* (the Brāhmani goose) and *wadi*, Pāli for 'river.' Legend has it that in the south of the District in prehistoric days only the hill upon which the Shwedagon pagoda now stands was above sea-level, and that it once afforded a resting-place for a Gautama, who, in a previous incarnation, had been caught in the shape of a *hintha* in a storm in the neighbourhood of the eminence.

History.

In early historic days Hanthawaddy, like the rest of the country lying round the Gulf of Martaban, formed part of the kingdom of the Talaings. Shortly after the close of the sixteenth century, when the Talaings had for the time been subjugated by the Burmans, and when the Toungoo dynasty reigned in the old Talaing capital of Pegu, Syriam, in Hanthawaddy District, was one of the earliest European trading stations in Burma. The only remains of this early settlement which now exist are the fragments of the old city walls and the ruins of the church built outside the old town of Syriam in 1750 by the Vicar Apostolic of Ava and Pegu. These are now preserved by Government. Hanthawaddy passed, with the rest of the province

of Pegu, under British dominion at the close of the second Burmese War. It was separated from Rangoon and made into a separate District in 1879. In 1883 it was split up into two on the creation of Pegu District, and in 1895 its limits were enlarged by the addition of the Kyauktan subdivision. With the expansion of Rangoon, various alterations of the boundary between the city and Hanthawaddy have been rendered necessary. The last revision was made in 1903.

There are several important pagodas. The Kyaikkauk pagoda is built on the low hills on the left bank of the Rangoon river 4 miles south of Syriam. It is said to have been erected to enshrine two hairs of Gautama; later, a bone of Gautama's forehead and one of his teeth were presented to the shrine. The Kyaikkasan pagoda lies about 3 miles north-east of the Shwedagon in Rangoon, and is of the same period as that at Kyaikkauk. The Shwesandaw, near Twante, is the most sacred of the local Talaing pagodas. It was built as a shrine for two of Gautama's hairs, to which four more hairs were subsequently added. Other sacred edifices of importance are the Kyaukwaing pagoda, 2 miles east of Thamaing railway station; and the Kyaikkalo pagoda, 14 miles north of Rangoon.

Population.

The population of the District at the last four enumerations was: (1872) 186,967, (1881) 296,026, (1891) 396,887, and (1901) 484,811. The distribution according to townships in 1901 is shown in the following table:—

Township	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Taikkyi	898	...	470	73,263	81	+ 52	20,385
Insein	482	1	478	103,984	216	+ 21	31,047
Twante	369	...	343	85,441	231	+ 24	26,026
Kungyangon	453	...	263	71,017	157	+ 12	23,447
Kyauktan	403	..	173	52,065	129	+ 33	19,300
Thabyegan	314	...	155	51,390	164	+ 1	32,755
Thongwa	104	...	174	47,651	458		
District total	3,023	1	2,056	484,811	160	+ 22	152,960

NOTE.—The Thongwa township was constituted after the Census of 1901.

Up to 1891 the rate of increase, chiefly owing to immigration from India, averaged about 100,000 for each decade. During the last decade progress has been rather slower, but there has been a total gain of 22 per cent. Hanthawaddy has now more inhabitants than any District in the Province, and is one of the most thickly populated. Despite its density, it contains but one town (Insein) of over 5,000 inhabitants, and only five villages of over 2,000. The population

is thus almost wholly rural. There were 10,000 immigrants from India residing in the District in 1891 and 43,800 in 1901, three-fourths of whom were Madrasis. Buddhism is the religion of the great majority of the inhabitants; but after Rangoon City Hanthawaddy has the largest number of Hindus (39,500) of any District in the Province, and its total of Musalmāns is lower only than those of Akyab, Rangoon, Amherst, and Mandalay. The Hindus are for the most part agricultural labourers and coolies from Madras. Burmese is the language ordinarily spoken. Practically all the persons returned as Karens at the enumeration speak the Karen language; but of the Shans only about half, and of the Talaings only a minute proportion, have retained their own vernacular. Of Indian languages, Tamil and Telugu are the most widely spoken.

The majority of the inhabitants are Burmans, but in 1901 the Karens numbered 44,100, the Talaings 32,700, and the Shans 15,400. The number of Chinese is large. Nearly 70 per cent. of the total population are engaged in or dependent on agriculture.

There are 7,440 Christians, nearly half of whom are Baptists, natives numbering 6,840. The Christian missions have their head-quarters in Rangoon; but there is an important branch of the American Baptist Mission at Insein, and several schools of this mission and of the Society for the Propagation of the Gospel are maintained in the large villages.

Agriculture.

The two southern subdivisions, Twante and Kyauktan, are practically deltaic islands, and, excluding a ridge known as the Kondan running from Syriam to Kyauktan, and a similar formation between Twante and Kungyangon, consist in the main of flat plains of alluvial soil in which the rice is ordinarily sown broadcast and not transplanted. The same may be said of the western portion of the Insein subdivision as far north as Hmawbi, beyond which the creeks lose their tidal character, and such streams as exist have separate sources in the Pegu Yoma. In this portion of the District the rice is almost always transplanted. In many places large tracts are subject to inundation, but the floods appear to be becoming less destructive and the precarious area more circumscribed.

The Kondan portion, although suitable for fruit cultivation on its lower slopes, is in the main covered with scrub jungle, and, beyond a small area in which the Shans cut *taungyas*, is of little value except for bamboo plantations. It is only on and near this high land, which cannot be used for rice, that miscellaneous crops and garden produce are cultivated, although in the immediate vicinity of Rangoon the people are beginning to cultivate vegetables after the rice is reaped, by means of irrigation from unbricked wells. The rainfall, which may be

roughly taken to average 100 inches per annum, is usually timely, and it is only in the extreme north of the District that partial damage to crops from unseasonable rainfall is in any way marked. There is, however, as has already been noted, an almost yearly loss of rice caused by rain in the early spring, when the cultivators, with their national carelessness, leave the grain unprotected on their threshing-floors.

The best rice in Burma is said to come from Pyawbwe in the Twante subdivision, and from an agricultural point of view the District may be viewed as a huge paddy-field producing a better average yield than any other part of Burma. No other crop is of any general importance; but the fruit and vegetable gardens, which extend along the Kondan from Rangoon to Insein, and supply the Rangoon market with pineapples, mangoes, jack-fruit, marian plums, betel-nuts, and other fruits and vegetables, may be noticed. The area cultivated in 1891 was 1,473 square miles. The main agricultural statistics for 1903–4 are given below, in square miles:—

Township.	Total area.	Cultivated.	Forests.
Taikkyi	898	262	639
Insein	482	324	
Twante	369	272	
Kungyangon	453	267	
Kyauktan	403	237	
Thabyegan	314	225	
Thongwa	104	199	
Total	3,023	1,786	639

The area under garden crops in 1903–4 was 55 square miles, mostly in the Insein and Twante townships, while 3,000 acres were planted with the *dani* palm.

The area under rice increases yearly; but good waste land is becoming exhausted except in the Taikkyi township, where large tracts to the east of the railway are still available for cultivation, and in the extreme south, where certain fuel reserves have lately been thrown open and island formations occur. The average size of a holding is large. At the revision settlement it was found to be over 40 acres. Comparatively little is done to improve the quality of the crops by systematic methods. No applications have been recently made by the cultivators for loans under the Agriculturists' Loans Act, but advances under the Act have been made from time to time in the past.

The agricultural stock is for the most part of the ordinary Burmese breed. Indian cattle imported from Calcutta are, however, becoming not uncommon. This is especially noticeable along the railway, where large settlements of natives of India are employed in supplying milk to

Rangoon. Kine are more numerous than buffaloes. The area reserved for grazing purposes is 109,000 acres, and it is only where natives of India are breeding large herds of cattle for milking that any real difficulty in feeding the live-stock exists.

Beyond the ordinary system of field embankments and the garden cultivation effected by means of unbricked wells near Rangoon, there is no regular irrigation in Hanthawaddy. A large reservoir has recently been constructed at Hlawga, 15 miles north of Rangoon, from which the water-supply of that city is drawn, and there are many village tanks of local importance. The fisheries of the District lie for the most part on the west, towards the Irrawaddy delta; they are all either in the beds of streams or in shallow depressions filled by the overflow from the waterways. Of the former kind there are 58 and of the latter 41. The largest fisheries are the East and West Gayetlami in the Twante township.

Forests.

The area of 'reserved' forest in 1904 was 394 square miles, and of 'unclassed' forests about 245 square miles. The latter are rapidly diminishing, as cultivation extends and clearances are made by excessive cutting for fuel for Rangoon. The hill forests cover the western slopes of the Yoma, and include large tracts of evergreen forests, in which teak and *pyingado* (*Xylia dolabriformis*) are found. Past records extending back to 1857 show that these forests were once very rich in teak; but much of this valuable timber has been extracted, and they now compare unfavourably with the forests on the eastern slopes of the same range in Pegu District. The plain forests consist of non-tidal and tidal growths. The former extend from the foot of the Yoma on undulating land, and are almost wholly in the Insein subdivision. Characteristic trees are chiefly deciduous, but evergreen forest is found along some of the streams. In the moister localities *pyinma* (*Lagerstroemia Flos Reginae*) and *kanyinni* (*Dipterocarpus laevis*) are the principal trees, and elsewhere teak, *pyingado* (*Xylia dolabriformis*), and *in* (*Dipterocarpus tuberculatus*). The teak is usually of poor quality, and much of the *pyingado* was used up for sleepers when the railway to Prome was being made. Large portions of the tidal forests have been reserved for fuel, but many rights in these Reserves exist, and they have been largely cut over. They are now not capable of supplying the demands of Rangoon, which must in future look to the plain forests in the Insein subdivision for the immense quantity of wood required for domestic purposes and brickmaking. There are 2,767 acres of teak plantations, dating from 1868. In 1900 a plantation of 30 acres of Para rubber trees was made near Rangoon, but its growth is not promising. The forest receipts in 1901 amounted to Rs. 71,155, including Rs. 35,799 from firewood and charcoal. In 1904 they were nearly Rs. 1,15,000.

Laterite and pottery clay are produced, but otherwise the mineral resources are unimportant. Laterite, which is largely used for road-metalling, is distributed along the Kondans, and is extracted by manual labour, Indian coolies being usually employed at a wage of 8 annas or more a day. The cost per 100 cubic feet delivered in Rangoon is Rs. 14, but the price varies with the cost of carriage. The annual out-turn is estimated at 22,000 tons. Ordinary alluvial clay is extensively excavated for brickmaking, and at Twante a superior kind is found, suitable for pottery.

Trade and communications.

Cotton-weaving on a small scale is carried on everywhere, but the people are gradually giving up their own hand-made cloth for European goods, which can now be bought in all the large villages. Silk-weaving as a local industry has almost entirely disappeared. Salt is manufactured at Tanmanaing in the Kungyangon township from sea-water, which is boiled in cauldrons after being passed over successive drying pans. The out-turn paying duty in 1903 was 46,600 cwt., which was almost entirely used locally in preserving fish in the shape of fish-paste (*ngapi*). Pots for salt-boiling are made in Kungyangon. At Twante large water and oil jars, often standing 4 feet high, and commonly known as Pegu jars, are made. They are glazed with a mixture of rice water and galena. Coarse mats used for packing are woven from bamboo in the Twante subdivision, and a finer kind for domestic use in parts of the Insein subdivision. Wood-chopping and other *das*, sickles, axes, and other ironwork for local use are made in many of the larger villages.

There are seven rice-mills in the District, almost all just outside Rangoon City, or within easy reach of it by water. Their annual out-turn is estimated at 64,000 tons, which all goes to the Rangoon market for export. Near the Pugyi and Palon railway stations are two small saw-mills supplying the local market, and at Insein are the workshops of the Burma Railways Company, which employ 2,500 men. The Burma Oil Company's refinery at Syriam is the most important factory in the District, employing a staff of 22 Europeans and 3,150 natives. The crude oil is brought down in tank-steamer flats from Upper Burma, and is refined by the process known as continuous distillation. It is then stored in large steel tanks, and pumped through a 5-mile pipe-line to the tank-steamers belonging to the company in the Rangoon river. It is also shipped in smaller quantities in tins and casks.

The trade of the District centres in Rangoon, but there are markets at Twante, Thongwa, Paukkon, and elsewhere. Excluding teak and other forest produce, extracted under the supervision of Government, rice may be regarded as composing the entire export. The grain is bought up by brokers of the large Rangoon firms at local centres all over the District, and is brought to the mills by boat or rail. The

use of large barges of European pattern, manned by natives of India, and often towed by small launches, is becoming general on the tidal creeks, and the number of Burmese craft in these waters is decreasing. Beyond this, the only export trade is the daily supply of the Rangoon market with fuel, milk, fruit, vegetables, and a little live-stock, principally pigs. The greater part of the fuel is brought in logs by boat from the tidal forests, but a considerable amount of charcoal is manufactured in the Taikkyi township, and comes into Rangoon by rail. The principal imports are piece-goods, salt, oil, sugar, hardware, oilman's stores, gunny-bags, rope, and miscellaneous goods. These are all obtained from the Rangoon markets, and are retailed in the local bazars and shops by Burmese, Chinese, and Indian traders.

Within the District there are 70 miles of railway, nearly 200 miles of metalled roads, and 30 miles of fair-weather cart-roads. Of these the Rangoon-Prome trunk road, the Dala-Twante road, and some branch roads (in all, 109 miles) are maintained from Provincial funds, and the remainder from the District cess fund. The Insein subdivision is served by the Rangoon Prome railway, which runs through it from south to north for a distance of 60 miles, and the south east corner by the Rangoon-Mandalay line, which leaves the District 3 miles to the north of Togyaungale railway station. The main water-communications are the Hlaing river, which runs almost parallel to the railway on the west, and has numerous tributaries, the TWANTE CANAL, and the Bawle, Panhlaing, and other creeks connecting the Hlaing with the eastern mouth of the Irrawaddy.

Except for the roads from Kyauktan to Syriam and Thabyegan, and from Twante to Dala and Kungyangon, the Twante and Kyauktan subdivisions depend almost entirely on water carriage. The Twante Canal shortens the distance by the Kanaungto creek between Rangoon and the To river, and, although shallow, is much used by small river steamers and boats, being the quickest route from Rangoon to the main stream of the Irrawaddy. A small drainage canal at Kayan, in the north of the Kyauktan subdivision, is navigable by boats in the rains. The Irrawaddy Flotilla Company has a daily service of steamers from Rangoon to Thongwa via Kyauktan, and from Rangoon to Twante through the canal Launches run daily from Rangoon up the Pegu river to Kamamat, and down the Rangoon river to villages in the Kungyangon township. A regular service is maintained on the Hlaing, where, in the rains, launches ply as far north as Sanywe in Tharrawaddy District. A steam ferry plies several times daily between Syriam and Rangoon, and there are boat ferries on all the chief lines of communication.

The District is divided into three subdivisions: Insein, comprising the TAIKKYI and INSEIN townships: Kyauktan, comprising the

KYAUKTAN, THABYEGAN, and THONGWA townships, and Twante, comprising the TWANTE and KUNGYANGON townships. They are under the usual executive officers, assisted by 799 village headmen (361 of whom have no part in the collection of revenue), but there still remain twenty-three of the old revenue circles under circle *thugyis*. Of the headmen, 7 have special criminal and 28 civil powers under the Village Act. The head-quarters are at Rangoon, where the Deputy-Commissioner is assisted by a treasury officer and an *akunwun* (in charge of the revenue). The land records staff consists of a superintendent, 8 inspectors, and 106 surveyors, the District being under supplementary survey. The excise staff is under a superintendent, subject to the control of the Deputy Commissioner. The District forms a Public Works division, with three subdivisions conterminous with the civil subdivisions. It is likewise co-extensive with the Rangoon Forest division.

Administration.

Hanthawaddy forms part of the Hanthawaddy Sessions division, and sessions cases are tried by the Divisional Judge. The District (civil) court is presided over by a whole-time District Judge. One civil township judge tries the cases in the three township courts in the Kyauktan subdivision. The other townships each have a special civil township judge. The township judges at Insein, Kyauktan, and Twante exercise Small Cause Court jurisdiction within these three towns.

The criminal work is heavy; and two additional magistrates are employed, one (regularly) at Insein, and one (occasionally) at Kyauktan, to try cases during the open season, when the subdivisional and township officers (who ordinarily perform the magisterial work of their charges) are on tour. These officers have no territorial jurisdiction proper, but cases are transferred to them for trial by the District and subdivisional magistrates. The statistics of crime fluctuate year by year. Boat-robberies and dacoities were once very prevalent in the delta, but of late years these forms of crime have been less common, and housebreaking appears to have taken their place. Similarly, cattle-theft, for which Insein was once notorious, is now not particularly prevalent, although still far from extinct. The numerous waterways make smuggling easy, and offences against the opium and excise laws show little signs of falling off.

Numerous territorial changes in Hanthawaddy District make it exceedingly difficult to trace the growth of the revenue derived from land. The first regular settlement commenced in 1879–80, in what is now the Kyauktan subdivision, and was completed in 1884 with the settlement of a part of the Insein subdivision; but it was not until 1895, when the Kyauktan subdivision was transferred to Hanthawaddy, that the District as now constituted was formed. Since 1897 the

settlement of all three subdivisions has been revised, and the present settlements will expire in 1910-1.

At the time of annexation the principal taxes (excluding customs collected at Rangoon) of Rangoon District were capitation, land (per yoke of oxen), fisheries, and salt taxes. These imposts were continued by the British Government, but at fixed rates per acre for land, the old assessment being quite arbitrary. Many grants under the liberal waste land grant rules of 1865 have been made. Thirty-nine of these grants in different stages of assessment exist (from the minimum rate of 4 annas per acre to the maximum of Rs. 1-8 per acre when the land becomes permanently settled), covering an area of 37,346 acres. The largest of these are a grant of over 4,000 acres in the Twante circle, and the Tawkayan grant of 2,500 acres in the Kungyangon township. The Cocos and Preparis Islands are leased under special arrangements for the collection of coco-nuts and fibre. The highest assessments on first-class rice land are Rs. 4 8 per acre in part of the Kungyangon township, Rs. 4-4 in certain portions of the Kyauktan subdivision, and Rs. 4 on land to the east of the railway in the Insein subdivision. On second-class soil the minimum rate is Rs. 1 4. The average assessment for rice land may be taken at about Rs. 3 8. Garden land is assessed at from Rs. 1-4 to Rs 6-0 an acre. *Dani* pays Rs. 5 an acre, and betel vine from Rs. 7 8 to Rs. 10.

Accurate statistics of revenue for the years prior to 1890-1 are not available. The following are the figures from 1890-1 onwards, in thousands of rupees:—

	1890-1	1900-1	1903-4
Land revenue . .	9,82	30,12	34,29
Total revenue . .	14,51	39,60	47,88

The total revenue for 1903-4 includes 4·8 lakhs from capitation tax and 1·8 lakhs from fisheries.

The District cess fund is administered by the Deputy-Commissioner for the construction and maintenance of roads and the provision of other local needs. It is provided mainly by a levy of 10 per cent. on the total land revenue; and in 1903-4 the income was Rs. 4,12,000 and the expenditure Rs. 4,41,000, mainly devoted to public works (Rs. 2,52,000). There are no municipalities. INSEIN was declared a 'notified area' in the early part of 1903, and a committee has been formed.

There are three lighthouses in the District—the China Bakīr, Eastern Grove, and Table Island. The China Bakīr is an iron-framed structure, standing on the edge of the flats at the end of the China Bakīr or

To river in 16° 17′ N. and 96° 11′ E. It was lighted originally in 1869, and was dismantled and erected in its present position on steel piles in 1901. The lighthouse shows a dioptric white light of the first order, fixed and flashing. The focal plane of the light is 74 feet above water-level. The Eastern Grove lighthouse stands on the east of the entrance to the Rangoon river, in 16° 30′ N. and 96′ 23° E. It shows an occulting dioptric white light of the third order, visible at 15 miles in clear weather. The focal plane of the light is 93 feet above high-water level. The structure is of iron, braced on screw piles. The lighthouse was first lighted in 1869 and was altered in 1881. The old light was converted into an occulting light and exhibited on May 9, 1896. The Table Island lighthouse stands on the summit of the south-west end of Table Island, 2 miles from the Great Cocos Island, in 14° 11′ N. and 93° 21′ E. It shows a dioptric fixed white light of the first order, visible at 20 miles in clear weather. The focal plane of the light is 195 feet above high-water level. The structure is a cast-iron circular tower, painted with alternate red and white bands. The lighthouse was lighted in 1867. There is a signalling station (marked by an obelisk) at Elephant Point, west of the entrance to the Rangoon river.

The forts guarding the Rangoon river and some of the submarine defences are within the District; they are garrisoned from Rangoon. Insein is an important centre of the Burma Railways Volunteer Corps.

The civil police force consists of 5 inspectors, 66 head constables and sergeants, and 426 men, under a District Superintendent, with 3 Assistant Superintendents stationed at Insein, Kyauktan, and Twante, the head-quarters of the three police and judicial subdivisions. There are 21 police stations, 9 of which are in the Insein, 5 in the Kyauktan, and 7 in the Twante subdivision. Three officers and 187 men of the Rangoon military police battalion are attached to the District.

The Central jail at Insein on the west of the railway is the largest prison in Burma, and has accommodation for 2,464 prisoners. It is in charge of a Superintendent, who has under him a staff of 2 Hospital Assistants, 12 jailors, and 67 warders. The principal jail manufactures are cotton winding, carpentry and carving, cane and bamboo work, blanket and coir-making, and blacksmith's work. The articles produced are supplied to various Government departments, and may be purchased by the general public. The average jail population is 1,810 convicted and 21 under-trial prisoners. There is a reformatory school at Insein, which was moved there from Paungde in 1896, and now has accommodation for 200 boys. There were 82 boys in the school on January 1, 1904, who were employed in gardening, tin and cane-work, weaving, and carpentry. The staff consists of a superintendent three schoolmasters, and two trade inspectors. The

removal of this building is under consideration, as it is considered that its proximity to the jail is objectionable.

The standard of education is fairly high. The proportion of literate males in 1901 was over 48 per cent., and of females 11 per cent., the latter being higher than in any other District of the Province. For both sexes together the proportion is 32 per cent. In 1903-4 there were 3 special, 17 secondary, 397 primary, and 382 elementary (private) schools, with 19,749 pupils (16,231 males and 3,518 females), as compared with 8,888 in 1890-1 and 19,092 in 1900-1. Higher education is largely dependent on the schools in Rangoon. The Burman schools show steady improvement, but the Karen seminaries, although increasing in numbers, remain of an inferior type. There has been a decrease in Tamil and other Indian schools. The only notable educational institution is the Government School of Engineering at Insein, which was established in 1894 to train Burmans for the Public Works department. Several scholarships are tenable in the school, and one appointment as overseer and five as sub-overseers in the Public Works department are presented annually by Government. There is a Survey school at Insein. The total expenditure on education in 1903-4 was Rs. 59,000, of which Rs. 16,800 was contributed from Provincial funds and Rs. 37,800 from the District cess fund. The receipts from fees amounted to Rs. 5,300.

Hanthawaddy is for medical purposes in charge of the Civil Surgeon, Rangoon, and the people of the District for the most part use the Rangoon hospital. There are, however, three other hospitals with 53 beds, in which 900 in-patients and 18,898 out-patients were treated in 1903, and 339 operations were performed. The income of the hospitals comes mostly from Local funds, which contributed Rs. 7,600 in 1903, while the railway gave Rs. 3,400 to the Insein hospital.

Vaccination is nowhere compulsory, and progress has been retarded by the popular practice of inoculation. In all 2,830 persons were successfully vaccinated in 1903-4, or only 6 per 1,000 of the population.

[Captain M. Lloyd, *Rangoon District Gazetteer* (1868); R. G. McKerron, *Settlement Reports* (1900, 1901, and 1902).]

Hanumāngarh. Head-quarters of the *tahsīl* of the same name in the Suratgarh *nizāmat* of the State of Bikaner, Rājputāna, situated in 29° 35′ N. and 74° 20′ E., on the left bank of the Ghaggar river, and on the Jodhpur-Bīkaner Railway, 144 miles north-east of Bīkaner city. Population (1901), 1,303. There is a post office, a vernacular school attended by 76 boys, and a railway dispensary; but the place is famous for its fort. Its old name was Bhatner, 'the fortress' or 'the habitation' of the Bhattis, who were originally Bhāti Rājputs, and who after becoming Musalmāns were called Bhattis. It was styled

Hanumāngarh in 1805, because it was captured by the Bīkaner Darbār in that year on a Tuesday, a day sacred to the monkey-god. Bhatner is frequently mentioned by the Musalmān historians; it has been identified as the Bhatia captured by Mahmūd of Ghazni about 1004, but this is doubtful. In 1398 it was taken by Tīmūr from a Bhāti chief named Dul Chand, but appears to have been restored to the Bhātis on their giving a girl of their tribe in marriage to the conqueror. In 1527 it is said to have been acquired by the Rāthor Rājputs, and was retaken from them by Kāmrān, the brother of Humāyūn, in 1549. It was recovered by the Bīkaner Rājā about 1560, and held for about twenty years, when it was seized by the *Sūbahdār* of Hissār. The possession of the fort seems to have changed hands frequently, till in 1805 it was, after a siege of five months, captured by the Bīkaner Darbār from a Bhatti chief named Zābita Khān.

[H. M. Elliot, *History of India*, vols. ii and iii (1869).]

Hāpa.—Petty State in MAHĪ KĀNTHA, Bombay.

Hāpur Tahsīl.—South-eastern *tahsīl* of Meerut District, United Provinces, comprising the *parganas* of Hāpur, Sarāwā, Garhmuktesar, and Pūth, and lying between 28° 35′ and 28° 54′ N. and 77° 41′ and 78° 12′ E., with an area of 411 square miles. The population rose from 212,047 in 1891 to 243,468 in 1901. There are 292 villages and two towns, HĀPUR (population, 17,796), the *tahsīl* head-quarters, and GARHMUKTESAR (7,616). In 1903–4 the demand for land revenue was Rs. 4,04,000, and for cesses Rs. 68,000. The density of population is low for this District, being only 592 persons per square mile. On the east there is a considerable area of *khādar* land bordering on the Ganges, which forms the eastern boundary. Above this lies a broad stretch of upland, much of which is intersected by ridges of sand; but irrigation from the Anūpshahr branch of the Upper Ganges Canal has rendered the cultivation of most of this productive. In the east the Kālī Nadi runs through high *bhūr*, and other streams flow in narrow deeply cut channels. Many drains have been made to carry off the flood-water from above, but the tract is still precarious. In 1903–4 the area under cultivation was 320 square miles, of which 112 were irrigated.

Hāpur Town (or Hāpar).—Head-quarters of the *tahsīl* of the same name in Meerut District, United Provinces, situated in 28° 43′ N. and 77° 47′ E., on the metalled road from Meerut to Bulandshahr, and on the Morādābād-Delhi branch of the Oudh and Rohilkhand Railway. The population rose from 14,977 in 1891 to 17,796 in 1901. Hindus number 10,038 and Musalmāns 7,518. The town is said to have been called Harīpur after Har Dat, the Dor chieftain who founded it late in the tenth century; but another derivation is from *hāpar*, meaning 'the orchard.' It formed part of the *jāgīr* of Perron, the French

general in the service of the Marāthā chief Sindhia. He established a system of grants for his disabled veterans, which was maintained by the British for many years. In 1805 Ibrāhīm Alī, the *tahsīldār*, defended the place against Amīr Khān, the Pindāri freebooter. During the Mutiny, Walīdād Khān of Mālāgarh threatened Hāpur, but was obliged to retire by the loyal Jāts of Bhatauna. The town is surrounded by several fine groves, and the site in the centre near the Jāma Masjid, which was built during the reign of Aurangzeb, stands high. Around the town are numerous small excavations often full of stagnant water, and the largest of these is connected with the Chhoiyā Nālā, a tributary of the KALĪ NADĪ (EAST), which drains most of the town. The drainage system has been greatly improved of late years. The principal public offices are the *tahsīlī*, a dispensary, and an Anglo vernacular school. The Church Missionary Society and the American Methodist Mission have branches here. Hāpur was constituted a municipality in 1872. During the ten years ending 1901 the income and expenditure averaged Rs. 17,000. In 1903–4 the income was Rs. 25,000, chiefly derived from octroi (Rs. 17,000); and the expenditure was Rs. 22,000. There is considerable local trade in sugar, grain, cotton, bamboos, and brass vessels. Two steam cottongins employ 263 hands. In 1904 there were 11 schools with 408 pupils.

Haraiyā.—South-western *tahsīl* of Basti District, United Provinces, comprising the *parganas* of Amorhā, Nagar (West), and Bastī (West), and lying along the Gogra, between 26° 36′ and 27° N. and 82° 13′ and 82° 43′ E., with an area of 478 square miles. Population fell from 351,609 in 1891 to 333,801 in 1901, this being the only *tahsīl* in the District which showed a decrease. There are 1,461 villages, but no town. The demand for land revenue in 1903–4 was Rs. 3,84,000, and for cesses Rs. 73,000. The density of population, 698 persons per square mile, is above the District average. The *tahsīl* lies in the upland area above the Gogra, and is crossed by the Kuwānā and several smaller streams. The area under cultivation in 1903–4 was 338 square miles, of which 211 were irrigated. Wells supply three-fourths of the irrigated area, and tanks and swamps most of the remainder.

Hāraoti and Tonk Agency.—A Political Charge in Rājputāna, comprising the States of Būndi and Tonk and the chiefship of Shāhpura, lying mostly in the south-east of Rājputāna. The headquarters of the Political Agent are ordinarily at Deoli, a cantonment in the British District of Ajmer. The term 'Hāraoti' means the country of the Hāra Rājputs (a sept of the great Chauhān clan), or, in other words, the territories of Būndi and Kotah. In former times, both these States were under the same Political officer, who was styled Political Agent of Hāraoti, but a separate Agent was appointed at

Kotah in 1876. The Tonk State consists of six scattered districts, three in Rājputāna and three in Central India; the latter are to some extent under the political charge of certain officers of the Central India Agency. (*See* CHHABRA, PIRĀWA, and SIRONJ.) The population of the Hāraoti and Tonk Agency has varied from 644,480 in 1881 and 739,390 in 1891 to 487,104 in 1901, the decrease of 34 per cent. during the last decade being due chiefly to the famine of 1899–1900 and the severe type of malarial fever which followed it. The total area is 5,178 square miles, and the density of population is 94 persons per square mile, as compared with 76 for Rājputāna as a whole. In point of size the Agency ranks sixth, and as regards population, last among the political divisions of Rājputāna. In 1901 Hindus formed 86 per cent. and Musalmāns 10 per cent. of the total population. Particulars for the States and the chiefship in the Agency are given below.—

State.	Area in square miles	Population, 1901.	Normal land revenue (*khālsa*), in thousands of rupees
Būndi . . .	2,220	171,227	3,60
Tonk (Rājputāna) .	1,114	143,330	7,00
Tonk (Central India)	1,439	129,871	
Shāhpura . .	405	42,676	1,70
Total	5,178	487,104	12,30

There are altogether 2,238 villages and 8 towns; but with the exception of TONK (38,759) and BŪNDI (19,313), the latter are very small.

Harappa.—Ancient town in the District and *tahsīl* of Montgomery, Punjab, situated in 30° 38′ N. and 72° 52′ E., on the North-Western Railway. Population (1901), 1,030. It is identified by Cunningham as the town of the Malli, mentioned in Arrian as that into which a great body of Indians fled for safety, and against which Perdiccas was sent with Alexander's cavalry. The ruins extend over an area three miles in circumference, covered with fragments of large bricks. The principal remains occupy a mound forming an irregular square, with sides about half a mile in length. On the western side, where the mass of ruins lies, the mound rises to a height of 60 feet, and encloses solid walls built of huge bricks, apparently belonging to some extensive building. Coins of early date have been picked up amongst the débris. Tradition assigns the foundation of the ancient city to an eponymous Rājā Harappa. The place is now a village of no importance, but was once the head-quarters of a *tahsīl*.

Harchoka.—Village in the Chāng Bhakār State, Central Provinces, situated in 23° 52′ N. and 81° 43′ E., on the Muwāhi river close

general the northern boundary of the State. The remains of extensive rock a sy avations, supposed to be temples and monasteries, were discovered here in 1870 1; they appear to be the work of a more civilized race than the present inhabitants of the State.

Hardā Tahsīl.—Western *tahsīl* of Hoshangābād District, Central Provinces, lying between 21° 53′ and 22° 35′ N. and 76° 47′ and 77° 31′ E., with an area, in 1901, of 1,483 square miles. The population in that year was 131,438, compared with 143,839 in 1891. In 1904, 38 villages and the Kālībhit tract of 'reserved' forest were transferred to Nimār, and the revised totals of area and population are 1,139 square miles and 128,858 persons. The density is 113 persons per square mile. The *tahsīl* contains one town, HARDĀ (population, 16,300), the head-quarters; and 400 inhabited villages. Excluding 279 square miles of Government forest, 78 per cent. of the available area is occupied for cultivation. The cultivated area in 1903-4 was 521 square miles. The demand for land revenue in the same year was Rs. 2,28,000, and for cesses Rs. 22,000. The northern portion of the *tahsīl* consists of a level plain fully cultivated, with black soil of great depth and fertility. In the west there are some low hills, while to the south the Sātpurā range runs through the *tahsīl*. The small Feudatory State of Makrai lies in the centre.

Hardā Town. Head-quarters of the *tahsīl* of the same name, Hoshangābād District, Central Provinces, situated in 22° 21′ N. and 77° 6′ E., on the Great Indian Peninsula Railway, 417 miles from Bombay. Population (1901), 16,300. Hardā is the tenth town in the Province in size. It is comparatively modern, Handiā, an old Muhammadan town, 12 miles distant, having formerly been the principal place in this part of the valley. It was constituted a municipality in 1869. The municipal receipts during the decade ending 1901 averaged Rs. 36,000. In 1903-4 they amounted to Rs. 66,000, of which Rs. 50,000 was derived from octroi. The town is supplied with water from the Anjan river, a mile and a half distant, but the works are at present incomplete. Infiltration and pumping wells were sunk in the river in 1896; but owing to the famine in that year, the Government loan which the municipality required for their completion could not be allotted. In 1900, when there was a scarcity of water, a small pump was set up in the infiltration well, and water was conveyed to some stand-pipes in the southern end of the town, and subsequently to the bathing *ghāt*. The total expenditure on the works has been Rs. 52,000. Hardā is an important commercial centre for the export of grain. Four cotton-ginning factories, three of which also contain presses, have been opened since 1899. Their combined capital is 3·15 lakhs, and in 1904 they cleaned and pressed cotton to the value of Rs. 56,000. The town also contains railway workshops. Local handi-

crafts include the manufacture of brass vessels and of thick cloths for the tops of carts, and the preparation and stuffing of skins. There is a printing press with English and Hindī type. A subdivisional officer for the two *tahsīls* of Hardā and Seonī-Mālwā is stationed here. The Foreign Christian Missionary Society supports, with the assistance of Government grants, a high school with 21 pupils, and an English middle school. There are three dispensaries, two of which are maintained by the railway company and the mission.

Hardoī District.—Western District of the Lucknow Division, United Provinces, lying between 26° 53′ and 27° 47′ N. and 79° 41′ and 80° 49′ E., with an area of 2,331 square miles. It is bounded on the north by Shāhjahānpur and Kherī; on the east by the Gumtī river, which separates it from Sītāpur; on the south by Lucknow and Unao; and on the west by Cawnpore and Farrukhābād, the Ganges forming part of the boundary. Hardoī is a level plain, with unimportant elevations and depressions. Along the Ganges in the south-west is found a strip of damp alluvial ground, while the rest of the District lies in the uplands, which contain sandy hillocks and ridges both on the east and west, and sink a little towards the centre. The chief tributary of the Ganges is the RĀMGANGĀ, a large river with a very variable channel, which traverses the west of the District and is joined near its confluence with the Ganges by the Garrā. Through the central depression flows the Sai, while the Gumtī forms the eastern boundary, its banks being marked by rolling hills and undulating plains of sandy composition, and by small ravines. In the central depression are found many *jhīls* or swamps, the largest of which is the DĀHAR LAKE near Sāndī; and the same tract contains broad stretches of barren *usar* land.

Physical aspects.

The District exposes nothing but alluvium, in which *kankar* or calcareous limestone is found. The *ūsar* or barren land is often covered with saline efflorescences.

Hardoī still contains a large area of jungle and uncultivated land, but the former is chiefly composed of *dhāk* (*Butea frondosa*), and the only vegetation on the sandhills is a tall grass, whose large waving white plumes form a graceful feature in the landscape. Fig-trees, especially the banyan, and bamboos are numerous, but groves of mangoes are not so common as in the neighbouring Districts, though their area is increasing.

Wolves are found near the Gumtī, and *nīlgai* haunt a few jungles. The antelope is still common in most parts. Jackals and hares are very abundant. The District is rich in wild-fowl, and fish are caught in all the larger rivers and tanks.

The District is generally healthy, and its climate is cooler and drier than the greater part of the rest of Oudh. The average mean monthly

temperature ranges from about 50° in January to 95° in June, while the maximum seldom rises above 105° in the shade.

Rain is equally distributed in all parts, the average annual fall being about 32 inches. Large variations from year to year are, however, common. Thus, in 1867 the rainfall amounted to 67 inches, and in 1896 to only 17 inches.

History.

The early traditions of this District are connected both with the Mahābhārata and the Rāmāyana. During the Buddhist and early Hindu period its history is a blank. According to popular legend, the Rājputs and early Muhammadan settlers found the District inhabited by Thatherās. It is, however, probable that these were not the brass and copper workers who are now called by this name, but that the word has been altered by a false etymology. A general in the army of Mahmūd of Ghazni is said to have raided the District in 1019, after the fall of Kanauj, and many traditions are current about the passage of Saiyid Sālār a few years later. Muhammadan rule did not, however, commence till the reign of Altamsh, when the whole District was acquired. In the fifteenth century Hardoī passed under the new kingdom of Jaunpur; and owing to its situation near the fords leading to the great city of KANAUJ it formed the scene of many sanguinary battles during the next 150 years. It was here that the Sharkī kings of Jaunpur mustered their forces and bade defiance to the Lodī sovereigns of Delhi. After their defeat at Pānīpat in 1526 the Afghān nobles still held Kanauj and the country north-east of the Ganges. Bābar and his son and successor, Humāyūn, drove out the Afghāns for a time; but when Humāyūn had suffered defeat at Chausā in 1539, his own brother turned against him and seized Bilgrām. In the following year Sher Shāh marched through the District and encamped opposite Kanauj, which was occupied by Humāyūn. The emperor crossed the river, but his defeat entailed the downfall of Mughal rule for the time. The Afghāns were finally subdued early in the reign of Akbar, who included the District in the *sarkārs* of KHAIRĀBĀD and Lucknow, and little is known of it till the break-up of the Mughal empire. Hardoī formed part of the territory of the Nawābs of Oudh, and from its position was the border-land between Shujā-ud-daula and the Rohillas. From 1773 a brigade of British troops was stationed close to Bilgrām for a few years, till its transfer to Cawnpore. In later times Hardoī was one of the most lawless tracts in the whole of Oudh, and Sleeman described the *talukdārs* in 1849 as openly defiant of the king's officers. At annexation in 1856 a District was formed with head-quarters at MALLĀNWĀN.

A year later the Mutiny broke out and the country was plunged into anarchy. A column of 400 sepoys, who had been dispatched

from Lucknow, broke into rebellion early in June, when the Ganges was reached. The troops at Mallānwān also mutinied and seized the treasury, but the District officials escaped to Lucknow. All the *talukdārs*, with the exception of the Rājā of Katiyārī, and the people generally joined in the rebellion and sent levies to Lucknow. In April, 1858, after the fall of the capital, General Walpole marched through, fighting two engagements; but it was not till near the close of the year that the rebels were finally reduced. The head-quarters of the District were then moved to Hardoī.

Many ancient mounds, which are locally ascribed to the Thatherās, may contain relics of Buddhist and early Hindu periods, but they still await exploration. The chief Muhammadan remains are at BILGRĀM, MALLĀNWĀN, PIHĀNĪ, and SĀNDĪ.

Population.

The District contains 10 towns and 1,888 villages. Population increased between 1869 and 1891, but decreased slightly in the next decade. At the four enumerations the numbers were: (1869) 931,377, (1881) 987,630, (1891) 1,113,211, and (1901) 1,092,834. There are four *tahsīls*—HARDOĪ, SHĀHĀBĀD, BILGRĀM, and SANDĪLA—each named from its head-quarters. The principal towns are the municipalities of SHĀHĀBĀD, SANDĪLA, and HARDOĪ, the District head-quarters, and the 'notified areas' of SĀNDĪ and PIHĀNĪ. The following table gives the chief statistics of population in 1901:—

Tahsīl	Area in square miles	Number of Towns	Number of Villages	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901	Number of persons able to read and write.
Hardoī	635	2	470	282,158	444	− 7.8	5,115
Shāhābād	542	3	518	250,533	462	+ 1.0	4,729
Bilgrām	596	4	485	293,948	493	+ 4.3	5,302
Sandīla	558	1	415	266,195	477	− 4.0	4,835
District total	2,331	10	1,888	1,092,834	469	− 1.8	19,981

About 89 per cent. of the population are Hindus and nearly 11 per cent. Musalmāns. The density of population is low for Oudh. Between 1891 and 1901 large areas in Hardoī suffered from floods and later from drought. Western Hindī is spoken by the entire population, the Kanaujiā dialect being the commonest.

The most numerous Hindu castes are Chamārs (tanners and cultivators), 171,000; Brāhmans, 115,000; Pāsīs (toddy-drawers and cultivators), 89,000; Ahīrs (graziers and cultivators), 80,000; Thākurs or Rājputs, 78,000; Kāchhīs (market-gardeners), 45,000; and Gadariās (shepherds), 41,000. The Arakhs, who are akin to the Pāsīs

and number 24,000, are not found elsewhere in such large numbers. Among Muhammadans are Pathāns, 19,000; Shaikhs, 15,000; and Julāhās (weavers), 13,000. Agriculture supports 74 per cent. of the total population, and general labour nearly 6 per cent. Rājputs hold nearly two-thirds of the land.

In 1901 there were 485 native Christians, of whom 437 were Methodists. The American Methodist Mission commenced work in 1869 and has six churches, thirty-three day-schools, a training school, and an orphanage.

Agriculture.

Hardoi is liable to considerable fluctuations in prosperity, owing to poverty of soil in some parts, liability to floods in others, and a deficiency of irrigation. A tract of high sandy *bhur* lies along the eastern border near the Gumtī, in which cultivation is much scattered and the best crops can be grown only near village sites. The central tract is more fertile, but even this is interrupted by barren stretches of *ūsar* and by swamps, while *bhur* reappears along the Sai. West of the central area of loam and clay rises a considerable ridge of sandy soil, which broadens out into a wide tract near the north. Throughout the District the *bhūr* is precarious, as it suffers both from drought and from floods, and to produce good crops requires a particular distribution of the rainfall. The inferior character of much of the soil is clearly shown by the large area producing barley, *bājra*, and gram. In the Ganges valley, and to a smaller extent in the valleys of the other rivers, an area of rich alluvial soil is found, which is, however, liable to floods.

The tenures of Hardoī are those common to Oudh. *Talukdārs* own about 24 per cent. of the total area, about 5 per cent. being sub-settled. More than half is held on *pattidāri* tenure. The main agricultural statistics for 1903-4 are shown below, in square miles:—

Tahsīl	Total	Cultivated	Irrigated.	Cultivable waste
Hardoī	635	432	143	110
Shāhābād *	542	365	69	106
Bilgrām	596	402	92	81
Sandīla	558	338	116	86
Total	2,331	1,537	420	383

* Figures for 1901-2

Wheat is the crop most largely grown, covering 470 square miles or 31 per cent. of the total area. The remaining food-crops of importance are: barley (273), *bājra* (230), gram (195), *arhar* (153), and pulses (114); while *jowār*, rice, and maize are grown to a smaller extent. Poppy is the chief non-food crop (32 square miles). Sugar-cane and cotton are not much cultivated.

The area under the plough is increasing, but is liable to great fluctuations owing to vicissitudes of season. It amounted to 1,320 square miles in 1864, and rose to an average of 1,448 square miles during the good years 1886–90, but fell to 1,415 in 1894. By 1903–4 it had risen to 1,537 square miles. An enormous increase has taken place in the area bearing two crops in a year, which also varies considerably. The increase is attended by a distinct improvement in the staples, especially since the famine of 1896–7. Thus the area under wheat, maize, sugarcane, poppy, and garden produce is gaining at the expense of inferior crops. A special officer of the Irrigation department has recently been posted to Hardoī, to inquire into the possibility of improving the drainage of the District. Large advances have been made under the Land Improvement and Agriculturists' Loans Acts, amounting during the ten years ending 1901 to a total of 5·5 lakhs, of which 2·3 lakhs was lent in the famine year, 1896–7. In the next four years the loans averaged only Rs. 2,400. A few small co-operative credit societies have been opened and two or three are flourishing.

The cattle are rather better than those of southern Oudh, but the area available for grazing is decreasing. The Bāngar breed has some reputation for hardiness and activity. Ponies are unusually plentiful, but are of a poor stamp and are chiefly used as pack-animals. A stallion has been kept in the District since 1893, and another was tried for some years, but horse-breeding has not become popular. Sheep and goats are very largely reared, the former for wool and the latter for their flesh, milk, and manure.

Only 420 square miles were irrigated in 1903–4. Wells supplied 203 square miles, tanks or *jhīls* 191, and other sources 26. The sandy *bhūr* is not suitable for the construction of wells, but they can be made elsewhere, and large numbers of temporary wells are dug annually. During the recent famine about 20,000 such wells were made in a few weeks with the help of loans advanced by Government. Water is usually raised from wells in a leathern bucket by bullocks, but the buckets are also worked by relays of men. Where the water is near the surface the *dhenklī* or lever is used, and irrigation from tanks or *jhīls* is effected by the swing-basket. The small streams are used for irrigation to a larger extent than elsewhere in Oudh, but the Sai is the only considerable river from which a supply is obtained. A scheme has frequently been discussed to construct a canal from the Sārdā, but the project has been abandoned. Part of the cutting made by the kings of Oudh early in the nineteenth century to connect the Ganges and Gumtī is still visible in the south-west of the District, but has never been used for irrigation.

Kankar or nodular limestone is found in most parts of the District, and is used for metalling roads and for making lime. Saltpetre is

extracted from saline efflorescences at several places, the largest factories being at Hardoī town.

The manufactures are not important. Cotton cloth is woven in a few towns and villages, but there is little demand for the finer products of the loom, which once had some reputation. The curtains and tablecloths made at Sandīla are, however, of artistic merit. Blankets, sacking, rope, string, and nets are also turned out. Vessels of brass and bell-metal are made at Mallānwān, and silver rings at Gopāmau. Carpentry is of some importance at Hardoī town, and a little wood-carving is produced in several places.

Trade and communications.

The District exports grain, raw sugar, tobacco, hides, cattle, and saltpetre, and imports piece-goods, metals, salt, cotton, and refined sugar. Grain is exported to Calcutta and Bombay, and sugar to Central India. A good deal of sugar and even sugar-cane is sent from the north of the District to the Rosa factory near Shāhjahānpur. Hardoī town is the chief mart, while Sandīla, Mādhoganj, and Sāndī are increasing in importance. Several of the old trade centres have suffered from the changes made in trade routes by the alignment of the railway.

The main line of the Oudh and Rohilkhand Railway traverses the District from south-east to north-west. A branch from Bālāmau leads to Rūdāmau and Mādhoganj, and the construction of other branches is contemplated. The improvement of roads was long delayed in Hardoī; but the District now contains 634 miles of road, of which 92 are metalled. The latter are maintained by the Public Works department, but the cost of all but 4 miles is charged to Local funds. Avenues of trees are maintained on 179 miles. The chief metalled roads are feeders to the railway. Shāhābād, Sāndī, and Mallānwān lie on the old road from Delhi to Benares north of the Ganges.

Famine.

From the physical characteristics of its soil, the District is liable to suffer considerably from irregularities in the rainfall. Between 1868 and 1874 alternate floods and droughts had so affected the agricultural prosperity that the settlement was revised. The failure of the rains in 1877 caused general distress, especially among the labouring classes, and small relief works were opened in January, 1878. In 1893 and 1894 much damage was done by excessive rain, which threw large areas out of cultivation. The following year was marked by an uneven and scanty distribution of the monsoon, and there was acute distress as early as November, 1895. Test works were opened early in 1896, and famine conditions were established by June. The rains failed, and the District experienced the worst famine recorded. By May, 1897, more than 113,000 persons were employed on relief works. The revenue demand was suspended to the extent of 8·7 lakhs, and 5·8 lakhs was subsequently remitted.

Since the famine the District has recovered rapidly, and in 1901 it was noted that unskilled labour was difficult to obtain.

Administration. The Deputy-Commissioner is usually assisted by a member of the Indian Civil Service (when available), and by four Deputy-Collectors recruited in India. Two officers of the Opium department are stationed in the District, and a *tahsildār* is in charge of each *tahsīl*.

Civil work is disposed of by two Munsifs and a Subordinate Judge subordinate to the Judge of Hardoī, who is also Civil and Sessions Judge for Unao. Hardoī is not remarkable for any particular form of crime, though murders were formerly frequent. Dacoity of a professional type is prevalent at intervals. Wandering tribes, especially Hābūrās, are responsible for many offences against property; and the District is the home of about 100 families of Barwārs, who commit their depredations at a distance.

Under the Nawāb's government the revenue demand of the District was 14·6 lakhs, and this was taken as the basis of the summary settlement made at annexation in 1856. After the Mutiny a second summary settlement was made, the demand amounting to 10·2 lakhs with cesses. A survey and regular settlement followed between 1860 and 1871, which involved the determination of a vast number of suits for rights in land. The assessment was based partly on estimates of the agricultural produce, and partly on assumed rent-rates derived from personal inquiries. The revenue so fixed amounted to 14·3 lakhs; but before the settlement had been confirmed a series of bad years occurred, and a revision took place in 1874 by which the demand was reduced to 13·3 lakhs. The next settlement was made between 1892 and 1896, and was primarily based on the recorded rents. The proposed demand was 16·1 lakhs; but owing to the succession of bad seasons during and after the assessment it was decided to make a complete revision, which accordingly took place between 1900 and 1902, and the demand was reduced by Rs. 48,000. The revenue in 1903-4 amounted to 15·8 lakhs, with an incidence of R. 1 per acre, varying from R. 0·7 to Rs. 1·5 in different *parganas*.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees:—

	1880-1.	1890-1	1900-1.	1903-4
Land revenue . .	13,29	13,49	14,83	15,81
Total revenue . .	16,37	18,03	20,30	22,63

Three towns are administered as municipalities and two as 'notified areas,' while four more are under the provisions of Act XX of 1856.

Local affairs beyond the limits of these are managed by the District board, which in 1903-4 had an income of Rs. 90,000, chiefly derived from rates. The expenditure in the same year amounted to 1·2 lakhs, including Rs. 56,000 spent on roads and buildings.

The District Superintendent of police has under him a force of 3 inspectors, 95 subordinate officers, and 336 constables, distributed in 13 police stations; and there are also 183 municipal and town police, and 2,370 rural police. The District jail contained a daily average of 321 prisoners in 1903.

Few Districts in the United Provinces are so backward as Hardoī in regard to education. In 1901 only 1·8 per cent. of the population (3·3 males and 0·1 females) could read and write. The number of public schools fell from 153 in 1880-1 to 138 in 1900-1, but the number of pupils increased from 5,108 to 5,886. In 1903-4 there were 160 such schools with 7,376 pupils, of whom 253 were girls, besides 106 private schools with 1,551 pupils. Only 1,879 of the total number of scholars were above the primary stage. Four schools were under the management of Government and 159 under the District or municipal boards. Out of a total expenditure on education of Rs. 45,000, Local funds provided Rs. 36,000, and fees Rs. 7,000.

There are 7 hospitals and dispensaries, with accommodation for 84 in-patients. In 1903 the number of cases treated was 52,000, including 853 in-patients, and 2,297 operations were performed. The expenditure amounted to Rs. 10,000, chiefly met from Local funds.

About 51,000 persons were successfully vaccinated in 1903-4, representing the high proportion of 46 per 1,000 of population. Vaccination is compulsory only in the municipalities.

[H. R. Nevill, *District Gazetteer*, 1904.]

Hardoī Tahsīl.—Head-quarters *tahsīl* of Hardoī District, United Provinces, comprising the *parganas* of Bangar, Gopāmau, Sarah (South), Bāwan, and Barwan, and lying between 27° 9′ and 27° 39′ N. and 79° 50′ and 80° 28′ E., with an area of 635 square miles. Population fell from 306,071 in 1891 to 282,158 in 1901, the rate of decrease being the highest in the District. There are 470 villages and two towns: HARDOĪ (population, 12,174), the District and *tahsīl* head-quarters, and GOPĀMAU (5,656). The demand for land revenue in 1903-4 was Rs. 3,99,000, and for cesses Rs. 68,000. The density of population, 444 persons per square mile, is below the District average. The *tahsīl* is bounded on the east by the Gumtī. It is also crossed by the Sai, and the western portion extends beyond the Garrā. It therefore includes a great variety of soils, ranging from the sandy *bhūr* near the Gumtī across the central uplands to the alluvial soil near the Rāmgangā. In 1903-4 the area under cultivation was 432 square

miles, of which 143 were irrigated. Wells supply two-thirds of the irrigated area, and tanks or *jhīls* most of the remainder.

Hardoī Town.—Head-quarters of the District of the same name, United Provinces, situated in 27° 23′ N. and 80° 7′ E., on the Oudh and Rohilkhand Railway. Population (1901), 12,174. The native town consists of two parts: Old Hardoī, a village standing on an ancient mound; and the new town which has sprung up since the head-quarters of the District were moved here after the Mutiny. The public buildings include, besides the usual courts, male and female dispensaries, and a fine hall containing the municipal and District board offices, a public library, and a club. The American Methodist Mission has its head-quarters here and supports an orphanage. Hardoī has been a municipality since 1871. During the ten years ending 1901 the income and expenditure averaged Rs. 14,500. In 1903–4 the income was Rs. 20,000, chiefly from a tax on professions and trades (Rs. 7,000) and from rents and market dues (Rs. 7,000); and the expenditure was Rs. 24,000. Hardoī is the centre of an export trade in grain, and is also celebrated for woodwork. Two large saltpetre factories have an annual output valued at about half a lakh. There are four schools for boys and two for girls, with a total of 450 pupils.

Harduāganj.—Town in the District and *tahsīl* of Alīgarh, United Provinces, situated in 27° 56′ N. and 78° 12′ E., 6 miles east of Alīgarh town. Population (1901), 6,619. Tradition assigns the foundation to Har Deva and Balarāma, brothers of Krishna; but no ancient remains have been found. The Chauhān Rājputs say they settled here when Delhi was taken by the Musalmāns. In the eighteenth century Sābit Khān improved the town considerably. There is a good bazar, lined with brick-built shops; and the town contains a police station, post office, and school. It was formerly a municipality, but is now administered under Act XX of 1856, with an income of Rs. 1,450. The chief imports are salt, timber, and bamboos, and the chief exports cotton and grain. A cotton-gin has been set up which employed 106 hands in 1903. The primary school has 90 pupils, and there are two girls' schools with 29 pupils.

Hardwār. Ancient town and place of pilgrimage in Sahāranpur District, United Provinces, situated in 29° 58′ N. and 78° 10′ E. Till 1900 it was the terminus of a branch of the Oudh and Rohilkhand Railway opened in 1886, but it is now connected by rail also with Dehra. The pilgrim route to the shrines of Kumaun passes through it. The population fluctuates considerably according to the number of pilgrims visiting it, and has been: (1872) 21,555, (1881) 28,106, (1891) 29,125, and (1901) 25,597. Of the total population in 1901, Hindus numbered 18,209 and Musalmāns 7,119.

The place has borne several names. According to tradition it was

named Kāpilā after the sage of that name, who is said to have lived here. In the seventh century Hiuen Tsiang described a town named Mo-yu-lo, which was probably Mayūra or Māyāpur, a suburb south of Hardwār. The Chinese pilgrim also mentions that there was a Brāhmanical temple north of Mo-yu-lo which the Hindus called 'the gate of the Ganges,' and this name Gangādwara is regularly used by the Muhammadan historians for Hardwār. The meaning of the present name is disputed. Worshippers of Siva derive it from Hara, a name of Siva, while the Vaishnavas claim that the correct origin is from Harī, a name of Vishnu. Abul Fazl, in the reign of Akbar, refers to Māyā, known as Haridwāra, and Tom Coryat, who visited the place in Jahāngir's reign, called it 'Hari dwāra, the capital of Siva.'

The town is beautifully situated on the right bank of the Ganges, at the foot of the Siwāliks, close by the gorge through which the river debouches on the plains. On the opposite shore rises the hill of Chandī Pahār, whose summit is crowned by a temple. The Ganges here divides into many shallow channels, with wooded islands between. One channel commences about 2 miles above Hardwār, and flows past the main town and its suburbs, Māyāpur and Kankhal, rejoining the parent river a little below the last-mentioned place. The head-works of the UPPER GANGES CANAL are situated on this branch, between Māyāpur and Kankhal. The town has grown considerably since the early part of the nineteenth century. At the present day the great object of attraction is the bathing *ghat*, called Harī-kā-charan or Hari-ki-pairi ('Vishnu's footprint'), with the adjoining temple of Gangādwāra. A stone on the wall of the *ghat* bears the footmark, which is an object of special reverence. Pilgrims struggle to be the first to plunge into the pool on great occasions, and stringent police regulations are required to prevent the crowd from trampling one another to death. In 1819, 430 persons, including some sepoys on guard, lost their lives in this manner, and the *ghāt* was enlarged. The great assemblage of pilgrims is held annually on the first day of the month of Baisākh, the commencement of the Hindu solar year, when the sun enters Aries. Every twelfth year the planet Jupiter is in the sign Aquarius (Kumbh) at this time, and the occasion is considered one of special sanctity, the fair being called the Kumbh melā. In 1796 the attendance was estimated at 2½ millions, and in 1808 at 2 millions. These were probably exaggerations, as the number at ordinary fairs was later found to be only about 100,000, and at the Kumbh melā about 300,000. In 1892 the fair was broken up on account of an outbreak of cholera, and the vast concourse of people sent off by rail before the great bathing day. The result of this action was the formation of the Hardwār Improvement Society, supported by contributions from Hindus all over India, which has introduced various sanitary reforms. The bottom

of the pool has been paved, and the current of the Ganges directed so as to secure a constant strong flow of water, while an iron railing has been erected to prevent bathers from being carried away. Another sacred pool, called Bhīmgoda, has been enlarged and paved, and water is now supplied from the Ganges. The society also furnished part of the funds required to bridge a torrent-bed lying between the station and the town. Plague broke out in 1897, but was quickly suppressed. A few more cases took place in 1898, and the measures adopted to prevent the spread led to a riot. The numbers at the fair have decreased considerably since plague appeared. The total at any one time is also affected by the fact that pilgrims now visit Hardwār throughout the year, instead of only on the fixed days. On the great bathing day at the Kumbh melā of 1903 about 400,000 persons were present. Cholera, however, broke out; and although the cases at Hardwār were few, the disease was carried by the pilgrims into the hill tracts leading to the Himālayan shrines. In early days riots and bloody fights were of common occurrence amid the excited throng. In 1760, on the great bathing day, the rival mobs of *gosains* and *bairāgīs* had a long battle, in which 1,800 are said to have perished. In 1795 the Sikh pilgrims slew 500 of the *gosains*. Tīmūr plundered and massacred a great concourse of pilgrims here shortly after seizing Delhi in 1398. In 1894 it was anticipated that the flood caused by the GOHNĀ LAKE would damage the town and head-works of the canal; but the river rose only 12 feet, and the damage was not excessive. The trade of the town is confined to supplying the wants of the pilgrims and to the through traffic with Dehra. Branches of the American Methodist Mission are maintained at Jwālāpur and Kankhal. The Hardwār Union municipality was constituted in 1868, and includes the two villages of Māyāpur and Kankhal. The income and expenditure from 1892 to 1901 averaged about Rs. 43,000. In 1903-4 the income was Rs. 91,000, of which Rs. 31,000 was derived from octroi, Rs. 20,000 from a loan, and Rs. 33,000 from the pilgrim tax. The expenditure was 1·2 lakhs; chiefly on the fair, Rs. 84,000.

Hareshwar.—Village in Janjīra State, Bombay. *See* DEVGARH.

Hariāna.—A tract of country in the Punjab, lying between 28° 30′ and 30° N. and 75° 45′ and 76° 30′ E., chiefly in the eastern half of Hissār District, but also comprising part of Rohtak District and of the States of Jīnd and Patiāla. It is in shape an irregular oval, with its long axis lying north-west and south-east. On the north-west it is bounded by the Ghaggar valley; on the west, south-west, and south by the Bagār and Dhundauti, or sandy tracts which are the continuation of the Bikaner desert; on the east by the Jumna riverain; and on the north-east by the Nardak country, from which it is divided by a line roughly coinciding with the alignment of the Southern Punjab Railway. The

name of Hariāna is most probably derived from *hari* ('green'), and is reminiscent of a time when this was a rich and fertile tract. Archaeological remains show that the country watered by the Saraswatī was once the scene of a flourishing Hindu civilization, and the records of Tīmūr's invasion mention the sugar-cane jungles of Tohāna, a proof that at any rate the valley of the Ghaggar was at that time of high fertility, though the country near Hissār seems already to have been dry and arid. The chief events in the history of the tract will be found in the article on HISSĀR DISTRICT. At the end of the eighteenth century Hariāna was a veritable no-man's land, acknowledging no master and tempting none. Lying at the point where the three powers, Sikh, Bhatti, and Marāthā, met, it covered an area of nearly 3,000 square miles of depopulated country. Its thousand towns and villages had once produced a revenue of 14 lakhs, but now yielded less than 3 lakhs. The tract thus lay open to attack, and in 1797-8 the adventurer George Thomas, who held the fief of Jhajjar from the Marāthās, took part of Kanhari and overran Hariāna as far as the Ghaggar. At Hānsi, which he found a desert, he established his capital, with a mint and arsenal. He next planned the conquest of the Punjab to the Indus, and actually advanced as far as the Sutlej. His successes appeared to have firmly established his power, and he built Georgegarh or Jahāzgarh; but in 1801 he succumbed after a heroic struggle to the overwhelming power of Perron, De Boigne's successor in Sindhia's service. After the capture of Hānsi by Bourquin, Hariāna passed for a short time into the hands of the Marāthās, and in 1803 came under British rule; a native governor was placed in charge of the Districts of Hariāna and Rohtak, but British authority was not actually established till 1810.

Hariāna Town.—Town in the District and *tahsīl* of Hoshiārpur, Punjab, situated in 31° 38′ N. and 72° 52′ E., 9 miles from Hoshiārpur. Population (1901), 6,005. From 1846 to 1860 it was the head-quarters of the *tahsīl*. Its chief trade is in sugar. The municipality was created in 1867. The income and expenditure during the ten years ending 1902-3 averaged Rs. 3,000. In 1903-4 the income was Rs. 3,200, chiefly derived from octroi, and the expenditure was Rs. 3,100. It maintains a vernacular middle school, and the town has a dispensary.

Harihar.—Head-quarters of a sub-*tāluk* in the Dāvangere *tāluk* of Chitaldroog District, Mysore, situated in 14° 31′ N. and 75° 48′ E., on the Tungabhadra river and the Southern Mahratta Railway. Population (1901), 5,783. According to tradition, it was the stronghold of a giant named Guha or Guhāsura, who by his austerities had won from Brahmā the boon of immunity from death at the hands of either Harī (Vishnu) or Hara (Siva). To relieve gods and men from his torment and break the spell, the two gods united into the one form Harihara and destroyed him. It was at an early period an *agrahāra* for Brāhmans, favoured by

the Chālukyas and other royal lines. In the twelfth century it was included in Nonambavādi, governed by the Pāndyas of Uchchangi. The fine temple of Harihareśvara was built in 1223 under the Hoysalás, by their general Polālva. The Seunas afterwards held it, and their general Sāluva Tikkama added some buildings in 1277. Many benefactions were bestowed down to the sixteenth century by the Vijayanagar kings, one of the founders of which line assumed the name of Harihara-Rāya. After the fall of Vijayanagar the place was seized by the Tarikere chiefs, who erected the fort. From them it was taken by the Nawāb of Sāvanūr, who granted it in *jāgīr* to Sher Khān. While in possession of the Muhammadans the temple was left intact, but the roof was used for a mosque, a small Saracenic doorway being made in the tower for the pulpit. Harihar was afterwards sold to Bednūr, and later held by the Marāthās till taken by Haidar Alī in 1763, since which time it has been thrice captured by the Marāthās. Until 1865 a Native regiment was stationed in the cantonment 2 miles north-west of Harihar. In 1868 was completed the fine bridge across the Tungabhadra for the trunk road towards Bombay. There is now also a separate bridge for the railway. The municipality dates from 1871. The receipts and expenditure during the ten years ending 1901 averaged Rs. 5,700 and Rs. 5,600. In 1903-4 they were Rs. 4,000.

Haringhāta.—Estuary of the Ganges. *See* MADHUMATĪ.

Harīpur Tahsīl.—*Tahsīl* of Hazāra District, North-West Frontier Province, lying between 33° 44′ and 34° 18′ N. and 72° 33′ and 73° 14′ E., with an area of 657 square miles. It is bounded on the north-west by the Indus. The *tahsīl* consists of a sloping plain, from 1,500 to 3,000 feet high, through which the Siran and Harroh flow. Low hills are dotted here and there over the plain. The population in 1901 was 151,638, compared with 142,856 in 1891. It contains the town of HARĪPUR (population, 5,578), the head-quarters; and 311 villages. The land revenue and cesses in 1903-4 amounted to Rs. 1,72,000.

Harīpur Town (1).—Head-quarters of the Harīpur *tahsīl* of Hazāra District, North-West Frontier Province, situated in 34° N. and 72° 57′ E., on the left bank of the Dor river, and on the road from Hassan Abdāl to Abbottābād. Population (1901), 5,578. Harīpur was founded about 1822 by Sardār Harī Singh, the Sikh governor of Hazāra, and on annexation became the head-quarters of the District, but was abandoned in favour of Abbottābād in 1853. An obelisk marks the grave of Colonel Canara, a European officer of the Sikh Artillery, who fell in 1848 defending his guns single-handed against the insurgents under Chattar Singh. The municipality was constituted in 1867. The income and expenditure during the ten years ending 1902-3 averaged Rs. 17,800. In 1903-4 the income and expenditure were Rs. 19,100

and Rs. 20,100 respectively. The town possesses a dispensary and a municipal middle school.

Haripur Town (2).—Old fort and village in the Dera Gopipur *tahsīl* of Kāngra District, Punjab, situated in 32° N. and 76° 10′ E., on the banks of the Bāngangā stream, 9 miles south-west of Kāngra fort. Population (1901), 2,243. It was founded in the thirteenth century by Harī Chand, the Katoch Rājā of Kāngra, whose brother had succeeded to the throne of Kāngra on the Rājā's supposed death. Harī Chand had really fallen into a dry well while out hunting, and when he was extricated and heard of his brother's accession, he resigned his right and founded the town and fort of Harīpur opposite Goler, making it the head-quarters of a separate principality. It continued to be the capital of the State until 1813, when it was treacherously seized by Ranjīt Singh. A younger branch of the Goler family still lives in the town, but the elder branch resides in the neighbouring village of Nandpur, and Harīpur is now of little importance.

Hari Rūd. One of the largest rivers in Afghānistān, with a total length of not less than 500 miles. It rises (34° 50′ N., 66° 20′ E.) at a point where the Koh-i-Bāba range branches off into the Siāh-Būbak and Safed Koh ranges, which form its northern and southern watersheds. After a westerly course of about 280 miles past Herāt and Ghoriān, where it affords considerable irrigation, it turns northwards at Kuhsān to Sarakhs, and forms part of the western boundary of Afghānistān, finally losing itself in the Tejend oasis.

Harischandragarh.—Fort in the Akola *taluka* of Ahmadnagar District, Bombay, situated in 19° 23′ N. and 73° 46′ E., 19 miles south-west of Akola, and one of the most interesting points on the Western Ghāts; 4,691 feet above sea level. The fort and the temples on the summit are annually visited by numerous pilgrims on the occasion of the festival called Mahā Sivarātri. The ascent from the Poona side is very arduous. The visitors bathe in a masonry reservoir near the temples, apparently of Hemādpanti origin, and a fair is held in the vicinity. On a peak half a mile east of the summit is the citadel, with decaying walls and ruined cistern. There are five caves below the fort, apparently dating from the tenth or eleventh century. From the level plain on the top of the hill the cliff drops 2,000 feet sheer to the Konkan, to which access was formerly gained by rope and pulley. In the last Marāthā War Harischandragarh was taken in May, 1818, by Captain Sykes.

Harnai (1). Railway station and village in Baluchistān, on the Sind-Pishin section of the North-Western Railway, situated in 30° 6′ N. and 67° 56′ E., at an elevation of 3,000 feet. It lies in the valley of the same name in the Shāhrig *tahsīl* of the Sibi District, and is the starting-point of the road for Loralai (55¼ miles) and for Fort

Sandeman (168 miles), with which it is connected by a cart-road. Harnai contains a small bazar, police station, dispensary, and *dāk*-bungalow.

Harnai (2).—Port in the Dāpoli *tāluka* of Ratnāgiri District, Bombay, situated in 17° 49′ N. and 73° 6′ E., 56 miles north-west of Ratnāgiri town. Population (1901), 6,245, including about 400 Christians. The port lies in a small rocky bay, and is a shelter for coasting craft in north-west winds. In 1818 Harnai was a station for British troops. The ordinary trade is small, but there is a brisk fish market from September to June. In 1903-4 the exports amounted to 2 lakhs and the imports to 5 lakhs. The island fortress of Suvarndrug, the 'golden fortress' or Janjīra, is a little to the north of the port. This was built by the Bijāpur Sultāns in the fifteenth century, and strengthened by Sivajī in 1660. In 1698 it was a station of Kānhojī Angriā's fleet, and in 1713 it was formally made over to him by Rājā Sāhu. Under Kānhojī's successor it became one of the chief centres of piracy on the coast. In 1755 Commodore James of the Bombay Marine co-operated with the Marāthā fleet in attacking the fortress. After pursuing Angriā's fleet to southward, he returned to the vicinity of Suvarndrug, bombarded the garrison from the sea, and finally seized the fortress by a night attack[1]. It was then handed over to the Marāthās, and was finally taken by Colonel Kennedy, after a brief resistance, in 1818. Harnai promontory has a lighthouse, visible for 6 miles. The town contains one school, with 90 boys and 18 girls.

Harpanahalli Tāluk.—South-western *tāluk* of Bellary District, Madras, lying between 14° 30′ and 15° 0′ N. and 75° 42′ and 76° 13′ E., adjoining the Mysore plateau, with an area of 611 square miles. The population in 1901 was 95,646, compared with 82,241 in 1891. The *tāluk* contains only one town, HARPANAHALLI (population, 9,320), the head-quarters: and 81 villages. The demand for land revenue and cesses in 1903-4 amounted to Rs. 1,63,000. At Chigateri gold is found in some of the streams. The cattle-fair at Kuruvatti is important. The *tāluk* lies at a greater elevation than any other in the District. It is traversed by two small lines of hills, and is everywhere diversified by picturesque undulations with pleasant valleys among them. Its eastern half drains eastwards into the Chikka Hagari, and the remainder slopes southwards towards the Tungabhadra. In the Chikka Hagari basin patches of black cotton soil, aggregating about one-eighth of the area of the *tāluk*, are to be found, but practically the whole of the rest is covered with mixed soils. *Cholam* and *korra* are, as usual throughout Bellary, the staple food-grains. Castor is exported in considerable quantities; and a characteristic crop is the yellow-

[1] This exploit is commemorated by a tower standing on Shooter's Hill in Kent, which was erected by James's widow, and is called Severndroog Castle.

flowered niger-seed (*Guizotia abyssinica*), grown for the oil it produces, which flourishes amazingly on the most barren-looking soils. It is generally sown along with *rāgi*. The only irrigation is that from tanks and wells, there being no river channel in the whole of the *tāluk*.

Harpanahalli Town.—Head-quarters of the *tāluk* of the same name in Bellary District, Madras, situated in 14° 47′ N. and 76° 0′ E., in a hollow surrounded by low hills. Population (1901), 9,320. Between 1868 and 1882 it was the head-quarters of the Deputy-Collector who then held charge of the four western *tāluks* of the District. It was formerly the seat of one of the most powerful of the local chieftains or *poligārs*, who kept all authority in their hands throughout the numerous changes of sovereigns which occurred in this part of the country. The remains of the fort are still standing, and, being surrounded by water on three sides, it must have been a strong place. The *poligārs* rose to power after the downfall of the Vijayanagar empire at the battle of Tālikotā in 1565, and by the end of the seventeenth century their possessions comprised 460 villages, for which they paid a tribute of over 8 lakhs. The chiefs were useful to Haidar Alī of Mysore, which still further strengthened their position, but his son Tipū treacherously seized the *poligār* and imprisoned him and most of his relations. After the death of Tipū at the storm of Seringapatam in 1799, the place was occupied by a former Dīwān of Harpanahalli on behalf of a child of the *poligār* family. But he yielded peacefully to General Harris when the latter marched through the country, and he and the *poligār* were rewarded with considerable estates. Both families are now extinct. The industries of the town include a little weaving of coarse cotton stuffs and woollen blankets, and some unambitious brass-work.

Harrand.—Village in the Jāmpur *tahsīl* of Dera Ghāzi Khān District, Punjab, situated in 29° 33′ N. and 70° 8′ E., at the foot of the Sulaimān Hills. Population (1901), 715. Tradition connects the site with the Greek invasion, and derives the name from one Hari, a slave of Alexander. The existing remains are of Hindu origin, and date back to a time before the Muhammadan conquest. A considerable fort, built by the Sikhs in 1836, is now occupied by a detachment of frontier cavalry and infantry.

Harsūd.—North eastern *tahsīl* of Nimār District, Central Provinces, lying between 21° 38′ and 22° 25′ N. and 76° 25′ and 77° 13′ E., with an area of 1,089 square miles. The population of the area now forming the *tahsīl* was 54,998 in 1901, and 44,155 in 1891. The density is 51 persons per square mile, and there are 201 inhabited villages. The head-quarters, Harsūd, is a village of only 1,098 inhabitants, 33 miles from Khandwā on the railway line towards Itārsi. Excluding 543 square miles of Government forest, 68 per cent. of the available area is occupied

for cultivation. The cultivated area in 1903–4 was 276 square miles. The demand for land revenue in the same year was Rs. 1,23,000, and for cesses Rs. 12,000. The *tahsīl* was formed in 1896 by the transfer of the Chārwa tract from Hoshangābād District and of some villages from the Khandwā *tahsīl*, with the object of settling this large area of cultivable waste land on the *ryotwāri* system. About 160 *ryotwāri* villages have been established in the *tahsīl*, which was enlarged in 1904 by the transfer of another tract from Hoshangābād. The land generally is broken and uneven, and covered over considerable areas with forest.

Hārua.—Village in the Basīrhāt subdivision of the District of the Twenty-four Parganas, Bengal, situated in 22° 37′ N. and 88° 41′ E. Population (1901), 705. It is the scene of a fair held every February in honour of Pīr Gorā Chānd, a Muhammadan saint, who lived 600 years ago and whose bones (*hār*) are buried here. The fair lasts for a week.

Hasanparti.—Town in the District and *tāluk* of Warangal, Hyderābād State, situated in 18° 5′ N. and 79° 31′ E. Population (1901), 5,378. The special feature of the town is that it contains about a hundred houses of weavers, who are engaged in making silk *sārīs* and other silk cloths, and also in manufacturing silk from *tasar* gathered by the Dandra tribe. It contains a State school where Urdū and Telugu are taught, and also a police station. In the neighbourhood iron ore is found, from which iron and steel are manufactured in small quantities, and used by the ryots for implements of husbandry. A temple of Venkateshwar Swāmi is situated in the town, and a religious fair is held annually.

Hasanpur Tahsīl.—Western *tahsīl* of Morādābād District, United Provinces, conterminous with the *pargana* of the same name, lying along the Ganges between 28° 26′ and 29° 4′ N. and 78° 4′ and 78° 26′ E., with an area of 547 square miles. Population increased from 153,680 in 1891 to 161,020 in 1901. There are 530 villages and three towns, the largest of which are HASANPUR (population, 9,579), the *tahsīl* head-quarters, and BACHHRAON (7,452). The demand for land revenue in 1903–4 was Rs. 1,90,000, and for cesses Rs. 34,000. The density of population, 294 persons per square mile, is the lowest in the District. The east of the *tahsīl* consists of a high sandy tract, which suffers from either excess or deficiency of rainfall. Between this and the Ganges lies a stretch of low *khādar* land with bleak sandy wastes, reed jungle alternating with patches of rich cultivation. The Mahāwa rises in the *khādar*, while a long winding marsh marks its eastern boundary at the foot of the sandy ridge. In 1902–3 the area under cultivation was 315 square miles, of which only 16 were irrigated, chiefly from wells.

Hasanpur Town.—Head-quarters of the *tahsīl* of the same name in Morādābād District, United Provinces, situated in 28° 44′ N. and 78° 17′ E., 33 miles west of Morādābād city. Population (1901), 9,579. The town derives its name from Hasan Khān, who founded it in 1634. It contains a dispensary and a branch of the American Methodist Mission. It is administered under Act XX of 1856, with an income of about Rs. 2,000. Its trade is purely local; but a small quantity of very good cloth is made. The middle school has 125 pupils.

Hasht-Bhaiya Jāgīrs.—A collection of petty States in Central India, under the Bundelkhand Agency. These *jāgīrs* were originally a part of Orchhā State. About 1690 Mahārājā Udot Singh of Orchhā gave his brother, Dīwān Rai Singh, the *jāgīr* of Barāgaon (now in Jhānsi District). On his death the *jāgīr* was subdivided into eight (*hasht*) shares among his sons, thus forming the estates of Kari, Pasari, Taraulı, Chirgaon, DHURWAI, BIJNĀ, TORI-FATEHPUR, and BANKĀ-PAHARI. The first three subsequently became merged in other holdings, while Chirgaon was confiscated in 1841 for the rebellion of the *jāgīrdār* Bakht Singh, leaving four shares. The dismemberment of Orchhā by the Marāthās and the formation of the Jhānsi State led to constant disputes as to the suzerainty over these holdings. After the establishment of British supremacy, it was decided in 1821 that the *jāgīrdārs* were directly dependent on the British Government, through whom the tribute levied by the Jhānsi State should be paid, but that the *jāgīrdārs* should continue the usual observances to the Orchhā chief as the head of the family. These conditions were embodied in the *sanads* granted to the *jāgīrdārs* in 1821 and 1823.

Hashtnagar ('Eight cities').—Tract in the Chārsadda *tahsīl* of Peshāwar District, North-West Frontier Province, comprising a strip of country that extends 10 miles eastward from the Swāt river, and stretches from the hills on the north to the Kābul river on the south, between 34° 3′ and 34° 25′ N. and 71° 37′ and 71° 57′ E. It is said to derive its name from its eight chief villages, which probably occupy the site of the ancient Peukelaotis or Pushkalāvati. General Cunningham, however, believed the modern term to be a corruption of Hastinagara, the city of Hasti, the Astes of Arrian. Raverty gave the old name as Ashnagar, but he does not explain its derivation. Before the Yūsufzai Afghāns settled in the Peshāwar valley, Hashtnagar was held by the Shalmānis, a Tājik race, subjects of the Sultān of Swāt, and the Hisār of Hashtnagar was the capital of a province which extended to the Kalpāni. After Bābar's time it became the stronghold of a Muhammadzai chieftain. The inhabitants are Muhammadzai Pathāns. The area is 303 square miles, and the tract is naturally divided into two sections the *sholgira*, or lowlands, irrigated from the Swāt river, and the *maira*, or high plain, which is inter-

sected by the Swāt River Canal. Near the head of the canal is Abāzai Fort.

Hassan District. District in the west of the State of Mysore, lying between 12° 31′ and 13° 33′ N. and 75° 23′ and 76° 38′ E., with an area of 2,647 square miles. It is bounded on the north by Kadūr District; on the east by Tumkūr and Mysore Districts; on the south by Coorg; and on the west by the South Kanara District of Madras.

Physical aspects.

The main body of the District consists of the Hemāvati river basin. The only exceptions are the west of Manjarābād, which drains to the Netrāvati in South Kanara; and the Arsikere *tāluk*, whose waters run north to the Vedāvati in Chitaldroog District. The Cauvery flows through a small portion of the south. The course of the Hemāvati is first south in Manjarābād, then east from the Coorg border to beyond Hole-Narsipur, where it turns south and runs into the Cauvery in Mysore District. Its chief tributary is the Yagachi from the Belūr *tāluk*, which joins it near Gorūr in the Hassan *tāluk*. The Manjarābād side of the District, resting on the brow of the Western Ghāts, forms part of the Male-sīme or Malnād, the 'hill country,' the remainder being Maidān or Bayal-sīme, the 'plain country,' also called Mūdu-sīme or 'east country.' The mountains forming the western limit extend from Jenkalbetta in the north to the Bisale *ghāt* in the south, including in the panorama the superb Jenkalbetta (4,558 feet), Mūrkangudda (4,265 feet), Devarbetta (4,206 feet), and the towering height of Subrahmanya or Pushpagiri (5,626 feet). Low ranges of granitic hills run along the north, through the Belūr, Hassan, and Arsikere *tāluks*, marking the watershed which separates the Kistna and Cauvery river systems. Indrabetta (3,309 feet) at Sravana Belgola is noted for the colossal Jain statue on its summit. Some low hills pass through the Hole-Narsipur *tāluk* towards Hassan and Channarāyapatna. The Malnād or highland region occupies the whole of Manjarābād and the west of Belur. It has been thus graphically described:—

'The country is generally undulating till on approaching the Ghāts, when it becomes precipitous. Perhaps there is no scenery in India more beautiful than the southern part of this tract, adjoining the north-west of Coorg. It for the most part resembles the richest park scenery in England. Hills covered with the finest grass or equally verdant crops of grain, adorned and crowned with clumps of noble forest trees, in some instances apparently planted most carefully, and certainly with perfect taste. The highest and the most beautiful knolls have been generally selected as the spots on which to build the small *maths* and other places of worship with which the country abounds; and the groves that surround or are in the vicinity of these are tended with the greatest care, and the trees composing them replaced as they

die off or are blown down. The southern differs from the more northerly and westerly parts in the absence of those dense jungles which obscure the view, and in the soft character of the hills, which are in most instances quite free from the stunted date, and smooth as the lawn of a villa on the Thames. But the whole *tāluk* is beautiful, and less wooded than Coorg or Nagar, though greatly partaking of the features of both.'

The Maidān or lowland tract, forming the largest and most populous portion of the District, consists of an undulating plain country, generally cultivated, but having extensive *kāvals* or grazing lands. Patches covered with the wild date are common, and in some parts are limited tracts of stunted jungle growing upon a gravelly, gritty soil. The high-lying lands, particularly in the Hassan, Channarāyapatna, and Hole Narsipur *tāluks*, have a singularly bare and bleak appearance, and are frequently so stony that they are unfit for cultivation. They form, however, good catchment basins for tanks, and the valleys below are rich and well wooded.

Throughout the District, kaolin, felspar, quartz, and other materials suitable for the manufacture of earthenware are abundant. *Kankar*, a tufaceous nodular limestone, is found in many parts, and is the only form of limestone known It occurs in alluvial valleys and on the banks of some streams, under or mixed with coloured clay. Potstone, from which the images at Halebīd are carved, is found at places in the Hassan and Belūr *tāluks*. Hematite iron ore is obtained from the Nāgadi hills in the Arsikere *tāluk*, associated with granitic rocks, broken by trap protrusions. Gold-mining was commenced a few years ago at Hārnhalli and Kempinkote, but has been abandoned on account of the poor results obtained.

The vegetation found in this District is generally the same as in Kadur District and in Coorg. The portion occupying the Western Ghats (eastern face) possesses a splendid arborescent flora perhaps unrivalled in any other part of India.

The temperature of Hassan is slightly lower than that of Bangalore, the mean reading of the thermometer being 73°, and the daily range about 20°. The maximum has reached 98° in April, while the minimum has touched 43° in January. The heat during the months of March and April is much modified by the sea-breeze from the western coast, and by light fogs in the mornings and evenings. The temperature of the Malnād is some degrees lower, but this scarcely compensates for the malaria which is prevalent. European settlers generally suffer from fever after the early rains, but they soon grow acclimatized, and are ultimately better able to withstand it than the natives themselves, numbers of whom succumb each year to its attacks. The annual rainfall at Hassan averages 33 inches; but the country bordering on the Western Ghāts

has a much heavier fall, the annual average at Sakleshpur being 84 inches, and at Aigūr as high as 100. Even this is exceeded at some of the western coffee estates, the average at Byakarvalli estate being 110 inches, and at Hulhalli estate 120. During the south-west monsoon, May to August, the rainfall is continuous, with a few slight breaks. The *sone* or drizzling rain extends as far as Grāma, 8 miles east of Hassan, and the condition of the surrounding vegetation distinctly shows the lines of demarcation which separate the Malnād from the Maidān country. The north-east monsoon also reaches the District, and the heavy rain in October is of great value in filling the tanks in the Maidān.

History.

The earliest event supported by any evidence was a migration of Jains from Ujjain under the leadership of Bhadrabāhu, in order to escape a dreadful famine of twelve years' duration which he had predicted. He was accompanied by Chandra Gupta, said to be the great Maurya emperor. While the emigrants were on their way to Punnāta (south Mysore), Bhadrabāhu died at Sravana Belgola, attended in his last moments by Chandra Gupta, who remained there till his own death twelve years later. These occurrences are recorded in ancient rock inscriptions at Sravana Belgola. They invested the place with a sanctity which led to the well-known Jain settlement there. The country is said to have been prosperous and well populated, but to whom it belonged is not stated. The Kadambas, whose capital was at Banavāsi, were ruling in the west of the District in the fourth and fifth centuries, and also again in some part of the eleventh. But the greater portion of the country was under the Gangas, whose inscriptions occur in all parts. Their general and minister, Chāmunda Rāya, erected the colossal Jain image of Gomata on the highest hill at Sravana Belgola about 983. The Cholas overthrew the Ganga power in 1004, and the Changālvas in the south-west and the Kongālvas in Arkalgūd became subject to them. But the rise of the Hoysalas stopped their progress farther north. These sprang from a line of chiefs in the Western Ghāts to the north of Manjarābād, and made Dorasamudra (now Halebīd in the Belūr *tāluk*) their capital. Vishnuvardhana of this line, about 1116, drove the Cholas out of Mysore. Ballāla II (1173–1209) carried the Hoysala dominions up to the river Kistna, making Lakkundi in Dhārwār his residence for some time. The king Somesvara (1233–54) extended the kingdom southwards over the Chola country, where he took up his abode at Kannanūr near Trichinopoly. The Hoysala power was brought to an end in the fourteenth century by Muhammadan invasions from Delhi. But in 1336 was founded the Vijayanagar empire, under which the Manjarābād country and Belūr were given to a line of chiefs who continued in power with intervals till the nineteenth century. Meanwhile most of the District had been conquered by the Mysore Rājās in the seventeenth century. The Channarāyapatna fort was built in 1648 by

treaty with Bijāpur, no doubt to mark the limits of the two territories. Sivappa Naik, the Keladi chief of Bednūr, opposed the Mysore conquests, and not only held Manjarābād but bestowed Belūr and other parts on the fugitive Vijayanagar king, who had taken refuge with him, even invading Seringapatam in 1646 on his behalf. Peace was eventually concluded between the two powers in 1694, by which six *nāds* of Manjarābād were restored to the old chiefs, and the rest divided between the contending parties. When Haidar subdued Bednur in 1763, Manjarābād was allowed to remain in the hands of the chiefs on paying tribute. After the fall of Seringapatam it was absorbed into Mysore.

Within this District are included some of the most remarkable archaeological monuments in India. Of the colossal Jain image of Gomata at Sravana Belgola, Fergusson says—'Nothing grander or more imposing exists anywhere out of Egypt.' It is a monolith, 57 feet high, in the human form, nude, with no support above the thighs, and stands on the summit of a granite hill 400 feet high. It was erected by Chāmunda Rāya, as inscribed at its foot in the Marāthi, Kanarese, and Tamil languages, in Nāgari, Hala-Kannada, and Grantha and Vatteluttu characters respectively. Its date is about 983, and it belongs to the Ganga period. Among architectural monuments, the Chenna Kesava temple at Belur and the Hoysalesvara at Halebīd take the first rank. They are in the Chālukyan style, and were erected under the Hoysalas in the eleventh and twelfth centuries. Fergusson praises the great temple at Halebīd, as one of the buildings on which the advocate of Hindu architecture would desire to take his stand: and he says that the minute elaboration of the carving in both may probably be considered as one of the most marvellous exhibitions of human labour to be found even in the patient East. The artistic combination of horizontal with vertical lines, and the play of outline and of light and shade, far surpass anything in Gothic art. The effects are just what mediaeval architects were often aiming at, but which they never attained so perfectly as was done at Halebīd. The ruined Kedāresvara at Halebid, which is now being restored, he pronounced to be one of the most exquisite specimens of Chālukyan architecture in existence, and one of the most typical. There are also striking examples of the same style in ruined temples at Arsikere, Hārnballi, Koramangala, Hire-Kadlūr, and other places in the District. The inscriptions of the District have been translated and published.

Population.

The population at each Census in the last thirty years was: (1871) 518,987, (1881) 428,344, (1891) 511,975, and (1901) 568,919. The decrease in 1881 was due to the famine of 1876–8. By religion, in 1901 there were 541,531 Hindus, 16,668 Musalmāns, 5,035 Animists, 3,795 Christians, 1,874 Jains, and 16 'others.' The density of population was 215 persons per square mile, that for the State being 185. The number of towns is 14, and of vil-

lages 2,546. The head-quarters are at HASSAN TOWN (population, 8,241).

The following table gives the principal statistics of population in 1901:—

Tāluk	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hassan	475	3	568	125,961	265	+ 11·1	6,018
Belūr	339	1	410	79,192	234	+ 9·2	3,535
Arsikere	486	3	354	79,588	164	+ 21·9	3,394
Channarāyapatna	415	2	396	90,950	219	+ 16·3	2,715
Hole-Narsipur	233	1	238	57,149	246	+ 12·3	1,645
Arkalgūd	261	3	303	76,775	294	+ 1·3	2,866
Manjarābād	438	1	277	59,304	135	+ 6·2	3,233
District total	2,647	14	2,546	568,919	215	+ 11·1	23,406

The Wokkaligas or cultivators number 173,000; the outcaste Holeyas and Mādigas, 93,000 and 12,000; Lingāyats, 83,000; Kurubas or shepherds, 45,000. Of Brāhmans there are 19,000. The nomad Lambānis are 3,000 strong, and Koramas half that number. Of Musalmāns the most numerous are Shaikhs, 11,000. By occupation, 81 per cent. are engaged in agriculture and pasture; 6 per cent. in the preparation and supply of material substances; 5·5 per cent. in unskilled labour not agricultural; and 2·5 per cent. in the State service.

The number of Christians is 3,795, of whom 3,554 are natives. At Grāma there was a Roman Catholic chapel in the eighteenth century, which was protected by a Muhammadan officer and thus escaped destruction at the hands of Tipū Sultān. Sathalli is the centre of an agricultural community established by the Abbé Dubois early in the nineteenth century. The Wesleyan Mission has a station at Hassan town. Church of England chaplains at Bangalore visit Arsikere for the railway staff there.

Agriculture.

The soil of the Malnād is a rich red sedimentary deposit, with forest loam in the jungles, and a red laterite soil on the grass-covered hills. The hills are of primitive formation, chiefly granitic, with a little iron ore. The products of this part are rice in the valleys, and coffee and cardamoms on the forest slopes. The soils in the plains surrounding the hills are generally of a rich sedimentary character, easily worked and yielding fine crops of cereals or garden produce. On the tops of the rising ground the soil is generally thinner and more sandy or gravelly than in the valleys, where it tends rather to be clayey and dark in colour. There are also other extensive tracts with a gravelly sandy soil, resulting

from the disintegration *in situ* of the primitive schists superimposed upon the granite. Black soil occurs, but only to a small extent and in patches, chiefly in the Arkalgūd, Channarāyapatna, and Arsikere *tāluks*.

The following table gives statistics of cultivation for 1903–4:—

Tāluk.	Area, in square miles, shown in the revenue accounts.				
	Total	Cultivated.	Irrigated	Forests.	Cultivable waste.
Hassan	439	171	41	31	22
Belur	296	121	39	1	22
Arsikere	481	160	8	100	54
Channarāyapatna	411	200	16	1	33
Hole-Narsipur	204	91	9	5	82
Arkalgūd	231	120	13	26	6
Manjarābād	428	126	49	59	29
Total	2,490	989	175	223	248

The grain principally cultivated in the Malnād is rice, which, though of an inferior quality, grows most luxuriantly in the long winding valleys and in fields cut in terraces on their sides, and is almost entirely dependent on the rainfall. The rice cultivated in the north-west of the Hassan *tāluk*, and that grown in the Maidān *tāluks* on land irrigated by channels from the rivers, is of a superior kind, and bears comparison with the best table rice of Southern India. In other places in the Maidān country the crop is dependent on irrigation from tanks. In a few places where irrigation is deficient, a coarse rice called *bhar doddi* is raised, chiefly in the Arkalgud, Hole-Narsipur, and Channarāyapatna *tāluks*. The sugar-cane grown is generally of inferior kinds. The rise in the price of rice, combined with years of drought, has lessened the former popularity of coco-nut and areca-nut gardens. The most valuable of these are in the Arkalgud *tāluk*, where many of the Brāhman proprietors work in the gardens themselves. The areca-nut is known as the *wolāgra*, and is not held in such high repute as that of Nagar. The coco-nuts of the Arsikere *tāluk*, which are allowed to remain on the tree till they drop, are much prized, and are largely exported in a dry state to Tiptūr for the Bangalore and Bellary markets. Plantains of good quality are grown to a considerable extent, and formerly every ryot had a few trees at the back of his house; but the cultivation has gradually yielded to that of coffee, which ranks as one of the most important products of the country. The rich red loam of the primaeval forests which cover the slopes of the Malnād hills is found to be well adapted for its growth. The cultivation of the berry, introduced first from Mecca by Bābā Budan on the hill which bears his name in Kadūr District, was gradually extended into Manjarābād, and when the British took over the administration of the country in

1831 was beginning to attract some attention. It did not, however, become general till the first European plantation was opened in 1843. Since then others have taken up jungle lands and invested capital largely in the enterprise. Every native in the Malnād has a few coffee-trees planted at the back of his house, and the *pātels* and principal *gaudas* have extended this cultivation till it embraces in small plots the whole of the jungles amid which their villages are situated. This industry, not long ago so flourishing, is at the present time in a most depressed condition, owing to the great fall in prices due to the competition of South America. The cardamom plant is indigenous, growing wild in the densely wooded ravines on the verge of the Western Ghāts. Its systematic cultivation has for some years been undertaken on a large scale. Though the soil in many parts is favourable, little attention has been paid to the cultivation of wheat and cotton. The former is grown in the Arsikere *tāluk*, and the latter in that and the Arkalgud *tāluk*. Tobacco is grown to some extent on dry lands in parts of the Arsikere, Belūr, and Arkalgūd *tāluks*. Arkalgūd tobacco is much prized for snuff; but that of Hārnhalli and Belūr is of inferior quality, and chiefly sold on the west coast for chewing. Of the cultivated area in 1903-4, rice occupied 162 square miles, *rāgi* 141, other food-grains 84, gram 101, coffee 69, oilseeds 54, garden produce 36, and sugar-cane 8.

During the twelve years ending 1904 Rs. 58,000 was advanced as agricultural loans for land improvement, and Rs. 14,000 for irrigation wells.

The area irrigated from canals is 19 square miles, from tanks and wells 128, from other sources 28. The length of channels drawn from rivers is 153 miles, and the number of tanks 5,944, of which 231 are classed as 'major.'

The area of State forests is 184 square miles, of 'reserved' lands 37, and of plantations 2. The forest receipts in 1903-4 were Rs. 1,18,000, the chief item being sandal-wood.

The unsuccessful attempts at gold-mining at Hārnhalli and Kempinkote have already been referred to. A certain quantity of soapstone is quarried for use in making images and large water-vessels. Laterite is very generally employed in the Malnād for building purposes. A little iron ore is smelted at Bāgadi in the Arsikere *tāluk*. It is used chiefly for agricultural implements.

Trade and communications.

Good cotton cloth is manufactured at Hole-Narsipur. In other parts only the coarsest kinds are made. The Musalmāns at Channarāyapatna and Hole-Narsipur make small articles of silk, such as purses, cords, and tassels. The woollen blankets worn by the peasantry are made by the Kuruba or shepherd class in all *tāluks* except Manjarābād. The

manufacture of brass and copper vessels is virtually a monopoly of the Jains at Sravana Belgola. Their pots are of excellent quality and meet with a ready sale at Mysore, and at the great annual festival at Subrahmanya in South Kanara. Oils (castor and gingelly) are mostly exported to Kanara, Coorg, and to Birūr in Kadūr District. Gunny-bags are made in the Arkalgūd, Hole-Narsipur, and Channarāyapatna *tāluks*, and bags for the export of grain are also made from the bark of a tree called *gaja mara* or 'elephant-tree.' The trunk is steeped in water, after which the bark is removed entire by thrashing it, in which state it is not unlike the leg of an elephant. There are reported to be 1,617 looms for cotton, 646 for wool, 16 for other fibres, 299 oil-mills, and 291 mills for sugar and jaggery.

The trade of the country is chiefly in the hands of outsiders, who frequent the different markets. There are therefore few merchants resident in the District of any wealth or importance. In addition to coffee, the articles exported are chiefly food-grains. The imports consist of iron, European cottons and woollens, *ghī*, areca-nuts and coco nuts, and salt. The great rice market is at Alur in the Hassan *taluk*. It is attended by the ryots of the Malnād, who bring their rice in large quantities for sale, and by purchasers who come from great distances with carts and droves of bullocks for the conveyance of the rice purchased. Other important trading places are Yesalūrpet, Kenchammana Hoskote, and Channarāyapatna.

The Southern Mahratta Railway from Bangalore to Poona runs for 17 miles through the north-east of the District The length of Provincial roads is 173 miles, and of District fund roads 444 miles.

Famine.

Since the general famine ending in 1878, the District, though sometimes affected by high prices of food-grains, has not been exposed to scarcity amounting to famine. The areca gardens suffered severely in the drought which prevailed in 1898.

Administration.

The District is divided into seven *tāluks*: ARKALGŪD, ARSIKERE, BELŪR, CHANNARĀYAPATNA, HASSAN, HOLE NARSIPUR, and MANJARĀBĀD. The following subdivisions were placed in 1903 under Assistant Commissioners: Hassan and Arkalgud, Manjarābād and Belur, with head-quarters at Sakleshpur; Channarāyapatna, Arsikere, and Hole Narsipur, with head-quarters at Hassan town.

The District court at Mysore has jurisdiction over the whole of Hassan District, and the Subordinate Judge's court at Mysore over a part There is a Subordinate Judge's court at Hassan for the remainder, and a Munsif's court at Hole-Narsipur. Owing to its position on the border of other jurisdictions, serious crime, such as dacoity is not uncommon.

The land revenue and total revenue are shown below, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue .	9,60	10,58	12,07	11,56
Total revenue .	11,25	14,54	17,25	16,99

The revenue survey and settlement were introduced in the north between 1877 and 1879, in the west in 1881 and 1882, in the south in 1883 and 1884, and in the east in 1885. The incidence of land revenue per acre of cultivated area in 1903–4 was Rs. 1–12–5. The average assessment per acre on 'dry' land is R. 0–13–7 (maximum scale Rs. 2–8–0, minimum scale R. 0–2–0); on 'wet' land, Rs. 3–14–7 (maximum scale Rs. 10, minimum scale R. 0–2–0); and on garden land, Rs. 4–4–11 (maximum scale Rs. 16, minimum scale Rs. 1–8–0).

In 1903–4 there were eight municipalities—HASSAN, Alūr, Sakleshpur, Belūr, Arsikere, Channarāyapatna, Arkalgūd, and HOLE-NARSIPUR—with an income of Rs. 37,000 and an expenditure of Rs. 40,000. There were also six village Unions—Bānāvar, Hārnhalli, Konanūr, GRĀMA, SRAVANA BELGOLA, and Basavāpatna—whose income and expenditure were Rs. 6,000 and Rs. 11,000. The District and *tāluk* boards, which deal with local affairs outside these areas, had an income of Rs. 71,000 and spent Rs. 79,000, including Rs. 16,000 on roads and buildings.

The police force in 1903–4 consisted of one superior officer, 73 subordinate officers, and 392 constables. There were 8 lock-ups, containing a daily average of 26 prisoners.

The percentage of literate persons in 1901 was 4·1 (7·7 males and 0·4 females). The number of schools increased from 331 with 7,614 pupils in 1890–1 to 442 with 10,167 pupils in 1900–1. In 1903–4 there were 442 schools (169 public and 273 private) with 9,117 pupils, of whom 1,165 were girls.

Besides the civil hospital at Hassan, there are 14 dispensaries, at which 93,487 patients were treated in 1904, of whom 692 were in-patients. The total expenditure was Rs. 25,000.

There were 3,817 persons vaccinated in 1904, or 10 per 1,000 of the population.

Hassan Tāluk.—Central *tāluk* of Hassan District, Mysore, including the Alūr sub-*tāluk*, and lying between 12° 48′ and 13° 13′ N. and 75° 53′ and 76° 19′ E., with an area of 475 square miles. The population in 1901 was 125,961, compared with 113,397 in 1891. The *tāluk* contains three towns, HASSAN (population, 8,241), the headquarters, GRĀMA (1,936), and Alūr (1,299); and 568 villages. The land revenue demand in 1903–4 was Rs. 2,66,000. The Hemāvati river forms the southern boundary, receiving from the north the

Yagachi and another stream. A dam on the Yagachi supplies a channel 6 miles long. In the north is a group of hills called Sīgegudda. There are also some low hills in the south. The south-west is purely Malnād, the chief cultivation here being a superior rice, with a little coffee. In the east, villages are far apart, but there are wide stretches of pasturage, supporting large flocks of sheep. The Sigegudda grazing-ground of the Amrit Mahāl can maintain 2,500 head of cattle. The best soil is near the Yagachi river. *Rāgi* is the staple 'dry crop,' with chillies and castor-oil in soil not suited for that grain.

Hassan Town.—Head-quarters of the District and *tāluk* of Hassan, Mysore, situated in 13° 0′ N. and 76° 6′ E., 25 miles from Arsikere railway station. Population (1901), 8,241 The original town is said to have been founded in the eleventh century at Chenna-patna (on the south) by an officer under the Cholas, whose descendants held it till the end of the twelfth century. There being no heir, the Hoysala kings then conferred it on another chief, by whom the present town and fort were built. It formed part of the Belūr kingdom under Vijayanagar, and was annexed to Mysore in 1690. The municipality dates from 1873. The receipts and expenditure during the ten years ending 1901 averaged Rs. 12,000. In 1903-4 they were Rs. 17,000.

Hassan Abdāl (*Hasan Abdāl*).—Village and ruins in the District and *tahsīl* of Attock, Punjab, situated in 33° 48′ N. and 72° 44′ E., and forming a part of the remarkable group of remains which lie around the site of the ancient Taxila. Hiuen Tsiang, the Chinese Buddhist pilgrim of the seventh century A.D., visited the tank of the Serpent King, Elapatra, which has been identified with the famous spring of Bāba Wali or Panja Sāhib in this village. Successive legends of Buddhist, Brāhman, Muhammadan, and Sikh origin cluster around the sacred fountain. The Muhammadan shrine of Bāba Wali Kandhāri crowns a precipitous hill, about one mile east of the town; and at its foot stands the holy tank called the Panja Sāhib, a Sikh shrine. The story is that Guru Nānak once came to Hassan Abdāl and asked the incumbent of Bāba Wali's shrine, which then possessed a spring, for water, which was refused. As a punishment the Gurū caused the water to spring up at the foot of the hill, instead of the top. The Muham-madan saint thereupon hurled a huge rock at the Gurū, who turned it aside with his hand. The rock was placed in the shrine, where it stands to this day. It bears the marks of the Guru's hand, whence its name of Panja, 'the five fingers.' Two miles from Hassan Abdāl lies Wāh, a village which was once a halting-place of the Mughal emperors on the road to Kashmīr. Its ruined gardens and a bath, recently excavated, mark the site of the imperial camp.

Hassangadi. Pass in South Kānara District, Madras. *See* HOSANGADI.

Hasuā.—Town in Gayā District, Bengal. *See* HISUĀ.

Hātā.—Central *tahsīl* of Gorakhpur District, United Provinces, comprising the *parganas* of Silhat, Shāhjahānpur, and Havelī, and lying between 26° 21′ and 26° 58′ N. and 83° 29′ and 83° 58′ E., with an area of 571 square miles. Population fell from 430,069 in 1891 to 428,846 in 1901. There are 950 villages and two towns, including RŪDARPUR (population, 8,860). The demand for land revenue in 1903–4 was Rs. 3,83,000, and for cesses Rs. 62,000. The density of population, 751 persons per square mile, is considerably above the District average. The *tahsīl* includes a fertile stretch of level country between the Little Gandak on the north-east and the Rāptī on the south-west. Smaller streams also cross it, and provide water for irrigation. The area under cultivation in 1903–4 was 457 square miles, of which 134 were irrigated. Wells supply more than half the irrigated area, and tanks, swamps, and small streams most of the remainder.

Hāthras Tahsīl.—South-western *tahsīl* of Alīgarh District, United Provinces, comprising the *parganas* of Hāthras and Mursān, and lying between 27° 29′ and 27° 47′ N. and 77° 52′ and 78° 17′ E., with an area of 290 square miles. The population rose from 208,264 in 1891 to 225,574 in 1901. There are 393 villages and five towns, the largest of which is HĀTHRAS (population, 42,578), the *tahsīl* head-quarters. The density is 778 persons per square mile, while the District average is 612. The demand for land revenue in 1903–4 was Rs. 4,44,000, and for cesses Rs. 74,000. The eastern portion of the *tahsīl* lies low, and the drainage is naturally bad, but it has been much improved by artificial channels. There is no canal-irrigation, and well-irrigation has recently become more difficult owing to a fall in the spring-level; but an extension of the Māt branch of the Upper Ganges Canal is contemplated. In 1903–4 the area under cultivation was 239 square miles, of which 113 were irrigated.

Hāthras Town.—Head-quarters of the *tahsīl* of the same name in Alīgarh District, United Provinces, situated in 27° 36′ N. and 78° 4′ E., on the roads from Muttra to the Ganges and from Agra to Alīgarh, and on the Cawnpore-Achhnerā Railway, and also connected with the East Indian Railway by a short branch; distance by rail from Calcutta 857 miles, and from Bombay 890 miles. Population is increasing rapidly: (1872) 23,589, (1881) 34,932, (1891) 39,181, and (1901) 42,578. In 1901 Hindus numbered 36,133 and Musalmāns 5,482.

After the British annexation in 1803, the *talukdār*, Dayā Rām, a Jāt of the same family as the Rājā of MURSĀN, gave repeated proofs of an insubordinate spirit; and in 1817 the Government was compelled to send an expedition against him under the command of Major-General Marshall. Hāthras was then one of the strongest forts in Upper India,

the works having been carefully modelled on the improvements made in the fort at ALĪGARH. After a short siege, terminated by a heavy cannonade, a magazine within the fort blew up and destroyed half the garrison. Dayā Rām himself made his escape under cover of the night, and the remainder of the garrison surrendered at discretion. During the Mutiny the town was kept tranquil by Chaube Ghanshām Dās, a blind pensioned *tahsīldār*, who was afterwards murdered by the rebels at Kāsganj. The town is essentially a trading centre, and the site is crowded. A project for improved drainage is under consideration, and it is also proposed to bring a water-supply from the Māt branch canal. The chief public buildings are the municipal hall and male and female dispensaries. The Church Missionary Society and Methodist Episcopal Mission have branches here.

Hāthras has been a municipality since 1865. The income and expenditure during the ten years ending 1901 averaged Rs. 34,000. In 1903–4 the income was Rs. 66,000, chiefly from octroi (Rs. 53,000); and the expenditure was Rs. 54,000. The municipality had a closing balance of Rs 26,000 and also Rs. 31,000 invested

Hāthras was a place of some importance even before British rule, and now it ranks second to Cawnpore among the trading centres of the Doāb. There is a large export trade in both coarse and refined sugar. Grain of all sorts, oilseeds, cotton, and *ghī* form the other staples of outward trade; while the return items comprise iron, metal vessels, European and native cloth, drugs and spices, and miscellaneous wares. The town is becoming a considerable centre for industrial enterprise. It contains six cotton-gins and five cotton-presses, besides a spinning mill. These factories employed 1,074 hands in 1903. There are two schools with 300 pupils.

Hathwā Rāj.—Estate in Bengal, situated for the most part in a compact block in the north-west of Sāran District, but also comprising property in Champāran, Muzaffarpur, Shāhābād, Patna, and Darjeeling, and in the Gorakhpur District of the United Provinces. It has an area of 561 square miles, of which 491 square miles are cultivated. The population in 1901 was 534,905. The rent roll (including cesses) amounted in 1903-4 to 11·51 lakhs, and the land revenue and cesses to 2·55 lakhs.

The Hathwā Rāj family is regarded as one of the oldest of the aristocratic houses in Bihār, and is said to have been settled in Sāran for more than a hundred generations. The family is of the caste of Gautama Babhans or Bhuinhārs, to which the Mahārājās of Benares, Bettiah, and Tekāri also belong. The authentic history of Rāj Husepur or Hathwā commences with the time of Mahārājā Fateh Sāhi. When the East India Company obtained the Dīwāni of Bengal, Bihār, and Orissa in 1765, Fateh Sāhi not only refused to pay revenue but

resisted the Company's troops who were sent against him, and was with difficulty expelled from Husepur. He retired to a large tract of forest between Gorakhpur and Sāran, whence he frequently invaded the British territories, and gave constant trouble until 1775. For some years the estate remained under the direct management of Government, but in 1791 Lord Cornwallis restored it to Chhatardhāri Sāhi, a grand-nephew of Fateh Sāhi. The title of Mahārājā Bahādur was conferred on him in 1837, Fateh Sāhi having died in the interim. During the Mutiny the Mahārājā displayed conspicuous loyalty, and was rewarded by the gift of some confiscated villages in Shāhābād District, which yielded a gross rental of Rs. 20,000 per annum. Mahārājā Chhatardhāri Sāhi Bahādur died in 1858 and was succeeded by his great-grandson, Mahārājā Rājendra Pratāp Sāhi, who held the estate until his death in 1896, when the Court of Wards took possession on behalf of his minor son. In 1868 the Privy Council held that the estate is an impartible Rāj descending to the eldest son. At Hathwā, 12 miles north of Siwān, stands the Mahārājā's palace, a splendid modern building with one of the most magnificent *darbār* halls in India. The Māhārānī has recently built a handsome hospital, named the Victoria Hospital. A model agricultural and cattle-breeding farm has been opened at Srīpur.

Hātia.—Island in Noākhāli District, Eastern Bengal and Assam, situated in the estuary of the Meghnā river, and lying between 22° 25′ and 22° 42′ N. and 90° 53′ and 91° 9′ E., with an area of 185 square miles. It contains 49 villages, and in 1901 had a population of 55,390, the average density being 299 persons per square mile. Muhammadans number 44,000 and Hindus 11,000. The island lies low, and is only partially protected by embankments from the incursions of the sea. It is thus exposed to storm-waves, and the great cyclone of 1876 destroyed 30,000 persons, or more than half the population.

Hātta.—North-eastern *tahsīl* of Damoh District, Central Provinces, lying between 23° 45′ and 24° 26′ N. and 79° 8′ and 79° 52′ E., with an area of 1,019 square miles. The population decreased from 129,676 in 1891 to 102,010 in 1901. The density in the latter year was 100 persons per square mile. The *tahsīl* contains 424 inhabited villages. The head-quarters, Hattā, is a village of 4,365 inhabitants, 24 miles from Damoh town by road. Excluding 249 square miles of Government forest, 57 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 335 square miles. The demand for land revenue in the same year was Rs. 1,38,000, and for cesses Rs. 13,000. The greater part of the *tahsīl* consists of an open black-soil plain in the valley of the Sonār river, with a belt of hill and forest country forming the scarp of the Vindhyan range to the north.

Haulī.—River of Bengal. *See* MĀTABHĀNGA.

Haungtharaw.—Township of Amherst District, Lower Burma. *See* KAWKAREIK TOWNSHIP.

Haveli.—Head-quarters *tāluka* of Poona District, Bombay, including the petty subdivision (*petha*) of Mulshi, and lying between 18° 16′ and 18° 44′ N. and 73° 19′ and 74° 12′ E., with an area of 823 square miles. It contains 2 towns, POONA CITY (population, 153,320), the District and *tāluka* head-quarters, and KIRKEE (10,797); and 235 villages. The population in 1901 was 326,955, compared with 337,182 in 1891. The density, 397 persons per square mile, is more than double the District average. The demand for land revenue in 1903-4 was 2·2 lakhs and for cesses Rs. 20,000. The southern boundary is a spur of the Western Ghāts, of which the hill fort of Singarh is the most conspicuous feature. The flat-topped hills and terraces have usually a shallow surface of black soil strewn with stones. Owing to the proximity of the Poona market Haveli is more energetically and carefully tilled than other parts of the District. The *tāluka* is well watered. The climate is usually dry and healthy. The annual rainfall averages 32 inches.

Hāveri. Head-quarters of the Karajgi *tāluka*, Dhārwār District, Bombay, situated in 14° 47′ N. and 75° 28′ E., on the Southern Mahratta Railway. Population (1901), 7,974. Hāveri has a considerable trade in cotton and other commodities, especially in cardamoms, brought from Kanara to be washed in a small lime-impregnated well. It has four temples and a monastery. Hāveri was constituted a municipality in 1879 and had an average income of Rs. 4,600 during the decade ending 1901. In 1903 4 the income was Rs 5,100. The town contains a Subordinate Judge's court, a dispensary, a municipal middle school, and four other schools, of which one is for girls.

Hāzara District.—Northernmost District of the North-West Frontier Province, and the only portion of that Province east of the Indus. It lies between 33° 44′ and 35° 10′ N. and 72° 33′ and 74° 6′ E., with an area of 2,858, or, including Tanāwal, 3,062 square miles. The District consists of a long tongue of British territory running north and south for 120 miles. The southern base is 56 miles in width, and the centre 40, while the Kāgān valley, in the north-east, is only about 15 miles broad. On the north the Kāgān range separates the District from Chilās, a dependency of Kashmīr; and on the east the range which borders the left bank of the Kunhār river and the Jhelum separates it from Kashmīr, Punch, and the Punjab District of Rāwalpindi; north-west lie the Black Mountain and the lofty ranges which overhang the eastern bank of the Indus; and on the south is Attock District of the Punjab. Thus the District

lies like a wedge of British territory driven in between Kashmīr on the east and the independent hills on the west.

Physical aspects.

Hazāra presents every gradation of scenery, altitude, and climate. The valley of the Harroh, only 1,500 feet above sea-level, merges into the Hazāra plain, an area of 200 square miles, with a mean elevation of 2,500 feet. Higher again is the Orāsh plain, where Abbottābād lies between 4,000 and 5,000 feet above the sea. Lastly the Kāgān valley, comprising one-third of the total area, is a sparsely populated mountain glen, shut in by parallel ranges of hills which rise to 17,000 feet above the sea. Never more than 15 miles apart, these ranges throw out spurs across the valley, leaving only a narrow central gorge through which the Kunhār river forces an outlet to the Jhelum.

The scenery is picturesque and ever-changing. Distant snowy ranges to the north; the higher mountains of Hazāra, clothed with pines, oaks, and other forest trees, the lower ranges covered with grass and brushwood; cultivation appearing on every available spot, from the small terraces cut with great labour in the hill-sides to the rich irrigation of the Haripur and Pakhli plains; water in every form, from the swift torrents of the Kunhār and Jhelum and the strong deep stream of the Indus, to the silent lakes of the Kāgān valley all these suggest Kashmīr and offer a vivid contrast to the arid plains of Northern India.

Hazāra may be described geologically as a section of the earth's crust coming well within the area of Himālayan disturbance, although the trend of the hill-ranges is altered from north-west—south-east to north-east—south-west. It is divisible into four distinct zones or belts of formations separated from one another by faults with overthrust, and each zone exhibits more plication or metamorphism as the higher and more north-westerly regions are approached. The first, to the north-west, is composed of metamorphic schists and sills of gneissose granite, and includes most of the country north-west of Abbottābād and the Dor valley. The second zone is composed of a great and ancient slate series, with outliers of younger rocks in the high, isolated hill-groups north-east of Abbottābād. The next in order, together with the outliers of that just described, comprises a great series of marine deposits beginning with a marked unconformity and basal conglomerate, and extending from the infra-Trias (Devonian?) up to Nummulitic, the rocks being mostly limestones or dolomitic limestones with subordinate shales and sandstones. In this series the Trias and Nummulitic are well developed, while the Jura Cretaceous strata are comparatively thin. Last of all are the Upper Tertiary zone of Murree sandstone and the lower and upper Siwālik sandstones and conglomerates to the south, stretching away into the Rāwalpindi plateau.

A coaly layer is found below the Nummulitic limestone in the Dor and neighbourhood. It is much crushed, uncertain in thickness, and mixed with much clay. Its value (if any) requires proving[1].

The trees of the District are described below under Forests. Generally speaking the flora is extremely varied, in the south embracing most varieties commonly found in the plains of Northern India, and in the hills including every type of Alpine vegetation until the extreme limit of growth is reached.

Leopards and black bears are found in all the hill tracts; hyenas are common in the lower hills, and wolves are occasionally seen. Foxes, hill martens, porcupines, hedgehogs, mongooses, and burrowing rats are common throughout the District. Ibex and musk deer are found in Kāgān. Game birds are not numerous. Various kinds of pheasant are found at elevations from 5,000 to 12,000 feet, and partridges and the commoner water fowl abound lower down. Mahseer are plentiful in the Indus and Jhelum and in the lower reaches of the Harroh and Siran.

The climate is as varied as the scenery. The hot season in the south vies with that in the adjoining Districts of Rāwalpindi and Attock. In the central plateaux the heat of summer is materially less, and the winter proportionately severe. The line of perpetual snow is between 14,000 and 15,000 feet above sea-level. The climate is, however, healthy, and well suited to Europeans. Malarial fevers in the spring and autumn, and various affections of the lungs in winter, are the chief diseases.

The rainfall is abundant, varying from 30 inches in the south to 50 inches or more in Abbottābād and the neighbouring hill stations. The heaviest fall in the last twenty years was 79 inches at Abbottābād in 1893-4, and the lightest 15 inches at Harīpur in 1891-2.

History.

The origin of the name Hazāra is obscure. It has been identified with Abisāra, the country of Abisares, the chief of the Indian mountaineers at the time of Alexander's invasion. Dr. Stein regards it as derived from Urasā, the ancient name of PAKHLI, but a possible derivation is from Hazāra-i-Karlugh, or the Karlugh legion, which was settled in this tract by Tīmūr after his invasion of India. Little is known of the history of the tract before the Durrānis. The name indeed occurs in the *Ain-i-Akbarī*, and is mentioned by Firishta. From these writings we gather that the Hazāra plain formed part of the Attock governorship, while other parts of the modern District were held by the same Gakhars who played so prominent a part in the history of Rāwalpindi. When the Mughal dynasty declined and the Afghān peoples from across the Indus grew

[1] C. S. Middlemiss, *Memoirs, Geological Survey of India*, vol. xxvi.

more aggressive, they found Hazāra an easy prey; Gakhar rule had grown weak, and the old families of the Gūjars, Kharrals, and Dhūnds were losing their vitality.

In 1752 Hazāra passed definitely under the sway of Ahmad Shāh Durrāni. The District formed the most convenient route to Kashmīr and also a useful recruiting area. Hence the Durrānis were at pains to repress disorder, but troubled themselves little about the internal administration or even the revenue payments of the tract. By the beginning of the nineteenth century the Durrānis had grown weak and Hazāra proportionately unruly. Sikh rule, however, was not established without preliminary reverses. In 1818 Ranjīt Singh formally annexed Hazāra; but in 1820 his generals were defeated, and again in 1821 Amar Singh was defeated and slain on the Harroh. Sardār Harī Singh, the governor of Kashmīr, was now sent to Hazāra; but it took him three more years to subdue the warlike mountaineers of the outer hills, and it was not till 1836 that the Gakhars of Khānpur were finally subdued. The governorship of Hazāra was at this time no sinecure. In 1845 the disorganization of the Sikh rule at Lahore tempted the people to rise once more, and so successful were they that Dīwān Mūlrāj, governor of Hazāra, retired to Hassan Abdāl in 1846. The people assembled at Harīpur and tried to restore former conditions. Meanwhile, the first Sikh War had come to an end, and Hazāra was made over to Rājā Gulāb Singh, together with Kashmīr. In 1847 the Rājā gave back Hazāra to the Lahore Darbār in exchange for land near Jammu, and Major James Abbott was sent to settle the country. By fair assessments, by liberality to the chiefs, and by a display of vigour and firmness when occasion required it, he completely pacified Hazāra in less than a year. During the second Sikh War Major Abbott maintained his position single-handed in the hills, cut off by the Sikh army from all assistance. During the Mutiny the District was under another strong man, Major Becher, and no disturbances of importance took place. Since 1857, the Black Mountain has been the only focus of disturbance, but the expeditions of 1868, 1888, 1891, and 1892 seem to have effectually quieted the country.

The archaeological remains so far discovered in Hazāra are not numerous, but one is of great interest and importance. This is an inscription on three boulders near the base of the Bareri hill close to Mānsehra, containing the first thirteen of the fourteen rock edicts of Asoka (third century B.C.). There are one or two traces of *stūpas* in other parts of the District. Coins of the Graeco-Bactrians, of Azes (first century B.C.), of Augustus, of the nameless king who called himself 'Soter Megas,' of the early Kushan kings, and of the Hindu Shāhis have been discovered in Pakhli. Traces of ancient forts or villages, remains probably of the Hindu dynasties which governed

Hazāra under its former name Urasā (the modern Rāsh or Orāsh) before the Muhammadan occupation, are found here and there.

Population.

Hazāra District contains 4 towns and 914 villages. Its population at each of the last four enumerations was: (1868) 367,218, (1881) 407,075, (1891) 516,288, and (1901) 560,288. The principal statistics of population in 1901 are shown below:

Tahsīl	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901	Number of persons able to read and write
Abbottābād . .	715	2	359	194,632	273	+ 10·7	3,535
Harīpur . .	657	1	311	151,638	228	+ 6·1	4,715
Mānsehra . .	1,486	1	244	182,396	124	+ 10·3	2,104
Total	2,858	4	914	528,666	185	.	10,354
Tanāwal . .	204	.	...	31,622	155	..	516
Grand total	3,062	.	.	560,288	184	+ 8·5	10,870

Population has increased by 8·5 per cent. during the last decade, the increase being greatest in the Abbottābād *tahsīl* and least in that of Harīpur. It is divided into three *tahsīls*: ABBOTTĀBĀD, HARĪPUR, and MĀNSEHRA. The head-quarters of these *tahsīls* are at the places from which each is named. The towns are the municipalities of ABBOTTĀBĀD (the head-quarters of the District), HARĪPUR, NAWĀSHAHR, and BAFFA. The District also contains the hill stations of NATHIA GALI with DUNGA GALI (the former being the summer head-quarters of the Local Government), CHANGLA GALI, and THANDIĀNI; and the hill cantonments of Bāra Gali, Kāla Bagh, Khaira Gali, and Ghora Dakka. Muhammadans number 533,000, or more than 95 per cent. of the total, Hindus, 23,000; and Sikhs, 4,000. The language spoken is chiefly a dialect of Western Punjābi, known locally as Hindkī. Pashtū is spoken on the Black Mountain border, and the Gūjars have a dialect of their own called Gūjarī.

In Hazāra, Pathāns are not the predominant race. They number only 55,000, while the Gūjars, who profess to be aborigines, number 92,000, and the Awāns 91,000. Tanaolis (59,000), though not Pathāns, are closely allied to them by customs and tradition. Dhūnds, another aboriginal tribe, number 25,000, Swātis 33,000, and Kharrals 16,000. The Saiyids (23,000) exercise great influence over the other Muhammadans. Of the trading classes, Khattrīs number 13,000 and Aroras only 4,000. Brāhmans number 5,000. Of the artisan classes, the Julāhās (weavers, 16,000), Tarkhāns (carpenters, 11,000), Mochīs

(shoemakers and leather-workers, 9,000), and Lohārs (blacksmiths, 9,000) are the most important. The Kashmīris, who live mainly by woollen industries, number 15,000. The chief menial classes are the Nais (barbers, 7,000) and Musallis (sweepers, 3,000). About 2,000 persons returned themselves as Turks, descendants of the Turkomāns who came with Tīmūr in 1391. Agriculture supports 72 per cent. of the population.

The Church Missionary Society opened a branch at Abbottābād in 1899, and the Peshāwar branch of the society has an outpost at Harīpur. In 1901, the District contained 17 native Christians.

Agriculture.

The level portion of the District enjoys a seasonable and constant rainfall of about 30 inches; the soil is better than that of the hill tracts and more easily cultivated, and the spring harvest is accordingly superior. The best irrigated and manured lands are equal to the most fertile in the Punjab, and the harvests are more certain than in the adjacent District of Rāwalpindi. The low dry hills have a climate and rainfall similar to that of the plains, but the soil is much poorer. In the temperate hills and high land in the middle of the District the rainfall averages 47 inches, and snow falls occasionally; the autumn crop is here the more valuable, but a fair proportion of spring crops are raised. The mountain tracts have an excessive rainfall and a severe winter; so that there is but little spring harvest. The soil in the open portion of the District is deep and rich, the detritus of the surrounding hills being lodged in the basin-like depressions below; the highlands have a shallow and stony covering, compensated for by the abundant manure obtained from the flocks of sheep and cattle among the mountain pastures. The spring harvest, which in 1903–4 formed 41 per cent. of the total crops harvested, is sown in the higher hills in October, and lower down in November and December; the autumn crops are sown in the hills in June and July, while in the lower lands seed-time varies from April to August with the nature of the crop.

The District is held chiefly on the *pattīdāri* and *bhaiyāchārā* tenures, *zamīndāri* lands covering about 339 square miles. The following table shows the main statistics of cultivation in 1903-4, areas being in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated.	Forests.
Abbottābād .	715	207	...	75
Harīpur . .	657	231	33	39
Mānsehra . .	1,486	199	19	121
Total	2,858	637	52	235

Maize covers the largest area, being grown on 273 square miles in

1903-4. Wheat (171) comes next in importance, followed by barley (78).

The cultivated area has increased by 10 per cent. since the settlement in 1874. The chief field for extension lies on the hill-sides, large areas of which can be brought under cultivation by terracing; but until the pressure of the population on the soil becomes much heavier than it is at present, there is little prospect of any considerable progress in this direction. Nothing has been done to improve the quality of the crops grown. The potato was introduced shortly after annexation, and is now largely cultivated. A sum of Rs. 14,700 is outstanding up to date on account of loans to agriculturists, and Rs. 4,856 was advanced during 1903-4 for this purpose.

Cattle are most numerous in the hilly portions of the District. The breed is small, and the cows are poor milkers, but the introduction of bulls from Hissār has done a good deal to improve the quality of the stock. Sheep and goats are grazed in the District in large numbers, chiefly by Gujars; the larger flocks migrate at different seasons of the year between Kāgān and Lower Hazāra or Rāwalpindi. The sheep are of the ordinary thin-tailed breed, and attempts to cross them with English stock and to introduce merino sheep are being made. Sheep and goats are largely exported to the cantonments and towns in Peshāwar, Rāwalpindi, and Jhelum. The local breed of horses is small; the Civil Veterinary department maintains seven horse and twenty-one donkey stallions, and one horse and two pony stallions are kept by the District board. The Abbottābād and Mānsehra *tahsīls* possess a large number of mules. A few camels are kept in Lower Hazāra.

The area irrigated in 1903-4 was 52 square miles, or 8 per cent. of the cultivated area. Of this, only 1·4 square miles were supplied by wells, 377 in number, which are confined to the Indus bank and the plain round Haripur. They are built for the most part of boulder masonry, and are worked by bullocks with Persian wheels. The chief method of supply is by cuts from the Harroh, Dor, and Siran rivers and minor hill streams. The undulating formation of the valleys, and the ravines which intersect them, make any considerable extension of irrigation very difficult.

Forests.

The two main classes of forests in Hazāra District are: the 'reserved' forests, in which only few rights of user are admitted, although the villagers are entitled to a share in the price of the trees felled for sale; and the village forests, in which Government retains a similar share, but which are otherwise practically left to the charge of the villagers, subject to the control of the Deputy-Commissioner.

The 'reserved' forests, which are situated mainly in the north and

east, cover 235 square miles, and yield annually about 80,000 and 40,000 cubic feet of *deodār* and other timber, respectively. The Jhelum and its tributaries convey the timber not used locally. The most important forests, which lie between altitudes of 5,000 and 10,000 feet, contain *deodār*, blue pine, silver fir, spruce, and *Quercus incana, dilatata*, and *semecarpifolia*. In the Gali range, where *deodār* is now scarce, trees of hardwood species are abundant, whereas in the drier Kāgān range and in the Upper Siran valley pure *deodār* forests are not uncommon, but the variety of species is smaller. Between 10,000 feet and the limit of tree growth at about 12,500 feet, the spruce and silver fir are the most common. In the south some hardwood forests of poor quality are of importance for the supply of firewood, and at elevations between 3,000 and 6,000 feet there is a considerable extent of forest in which *Pinus longifolia* predominates. Forest fires, which formerly did much damage, are now becoming less frequent. Working-plans have been prepared and will shortly come into force for all the 'reserved' forests, which are controlled by the Forest officer in charge of the division. In 1903–4 the forests yielded a revenue of Rs. 83,000.

The village forests are not so strictly preserved. Those of the Harīpur *tahsīl* and parts of Abbottābād, including Tanāwal, produce only fuel; but in the northern parts of the latter *tahsīl* and in Mānsehra the forests contain coniferous and deciduous trees, which increase in value as the forests become less accessible. These village forests are controlled, under the Hazāra Forest Regulation of 1893, by the Deputy-Commissioner through the village headmen, on the principle that the villagers, while taking without restriction all that they require for their own needs, shall not be permitted to sell timber or firewood cut from them.

Of the 1,700 square miles of waste land in the District, only 200 are clad with timber-producing trees, 200 more forming fuel reserves. About 200 square miles have been demarcated as village forests, to check denudation and to prevent waste, while securing the produce to the villagers for the satisfaction of their needs.

As already mentioned, coal exists in the District, but has not been worked. Limestone, building stone, and gypsum are abundant, and coarse slate is found in places. Antimony and oxide of lead have been observed; and iron occurs in considerable quantities, but is little worked.

Trade and communications.

The industries of Hazāra are of only local importance. The principal manufacture consists of coarse cotton cloth and cotton strips for use as turbans. In the northern glens blankets are largely made from sheep's wool. The domestic art of embroidering silk on cotton cloth attains a higher degree of excellence than in any other part of the Province or the

Punjab, and jewellery of silver and enamel is produced. Water-mills are used to a considerable extent for grinding flour and husking rice.

Cotton piece-goods, indigo, salt, tobacco, and iron are imported from Rāwalpindi and the south, and a large proportion goes through to Kashmīr and Bājaur, whence the chief imports are wood, fibres, and *ghī*. Grain, chiefly maize, is exported to the dry tracts west of Rāwalpindi, to the Khattak country across the Indus, and to Peshāwar; a large part is bought direct from the agriculturists by Khattak merchants who bring their own bullocks to carry it away. *Ghī* is exported chiefly to Peshāwar, and sheep and goats are sent to Peshāwar and Rāwalpindi.

No railways pass through the District. It contains 90 miles of metalled roads under the Public Works department, and 1,157 miles of unmetalled roads, of which 406 are under the Public Works department and the rest are managed by the District board. The principal route is the metalled road from Hassan Abdāl in Attock on the North-Western Railway, which passes through Abbottābād and Mānsehra to Srinagar in Kashmīr, crossing the Kunhār, Kishangangā, and Jhelum rivers by iron suspension bridges. Another route, not passable for wheeled traffic, connects Abbottābād with the hill station of Murree. Both routes run through mountainous country, but are kept in excellent repair, though the latter is in winter blocked by snow. A third road, from Hazro to Harīpur and Abbottābād, is chiefly used by Pathān traders from Peshāwar. A tonga and bullock-train service connects Hassan Abdāl on the North-Western Railway with Abbottābād. The Kunhār is crossed by several wooden bridges.

Famine.

Hazāra suffered great scarcity in the memorable and widespread famine of 1783, which affected it with the same severity as the remainder of Northern India. During the decade ending 1870, which was a period of dearth in the plains Districts, the harvests of Hazāra produced an excellent yield, and the high price of grain for exportation gave large profits to the peasantry, besides affording an incentive to increased cultivation. In 1877–8 Hazāra again experienced scarcity; but in 1879–80 the yield was abundant, and high prices ruled during the continuance of the Afghān War. The District was not seriously affected by the famines of 1896–7 and 1899–1900.

Administration.

The District is divided for administrative purposes into three *tahsīls*—Abbottābād, Harīpur, and Mānsehra—each under a *tahsīldār* and *naib-tahsīldār*. The Deputy-Commissioner, besides holding executive charge of the District, is Political officer in charge of the tribes of the adjacent independent territory. He has under him a District Judge who is usually also Additional District Magistrate, an Assistant Commissioner who commands the border military police, and two Extra-Assistant Commissioners, one

of whom is in charge of the District treasury. The Forest division is in charge of a Deputy-Conservator.

The Deputy-Commissioner as District Magistrate is responsible for criminal justice, and civil judicial work is under the District Judge. Both officers are supervised by the Divisional and Sessions Judge of the Peshāwar Civil Division. The District Munsif sits at Abbottābād. Crime in Hazāra is very light for a frontier District.

Sikh rule in Hazāra began in 1818. As in the Punjab generally, the only limit to the rapacity of the *kardārs* was the fear of imperilling future realizations, but up to this limit they exacted the uttermost farthing. Some parts of Hazāra were too barren or too inaccessible to be worth squeezing, and it may be doubted whether the Sikhs actually collected more than one-third of the total grain produce. When Major Abbott made the first summary settlement of Hazāra in 1847-8, he took one-third as the fair share of Government. Records and measurements he neither found nor made, but he assessed each village after comparison of what it had paid with its degree of impoverishment. The Sikh demand was reduced by 16 per cent. In 1852 Major Abbott made a second summary settlement, which was in effect a redistribution of the first, and was less by Rs. 3,000 than his original demand of Rs. 2,06,000. The fact that the first assessment was easily paid is evidence of its equity, while the fact that it was reimposed, after a fall in prices quite unprecedented in both suddenness and extent, points to the improvement which must have taken place in the cultivation and the general circumstances of the District.

The assessment of 1852 remained in force for twenty years, and a regular settlement was carried out between 1868 and 1874. The prosperity of the District had advanced rapidly, and the demand was increased by 34 per cent. to 3 lakhs. The District again came under settlement in 1901, when a similar rise in prosperity had to be taken into account. The new demand shows an increase of Rs. 20,400, or 7 per cent. over the demand for 1903-4.

The collections of land revenue and of total revenue are shown below, in thousands of rupees :—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	2,23	2,26	3,34*	2,40
Total revenue . .	2,90	3,10	5,35*	3,19

* Including collections from the Attock *tahsil*, which then formed part of the District.

The District contains five municipalities, HARĪPUR, ABBOTTĀBĀD, BAFFA, MĀNSEHRA, and NAWĀSHAHR; and a 'notified area,' NATHIA GALI-*cum*-DUNGĀ GALI. Outside these municipal areas, local affairs are managed by the District board, all the members of which are appointed.

Its income, derived mainly from a cess on the land revenue, amounted in 1903-4 to Rs. 29,500; and the expenditure was about the same, the principal item being education.

The regular police force consists of 487 of all ranks, of whom 42 are cantonment and municipal police. The force is controlled by a Superintendent. The village watchmen number 471. There are 16 police stations, one outpost, and 12 road-posts. The District jail at head-quarters has accommodation for 114 prisoners. The border military police, numbering 250, are under the control of the Deputy-Commissioner exercised through the commandant, an Assistant Commissioner, and are distinct from the District police.

Only 2·4 of the District population could read and write in 1901, the proportion of males being 4·35, and of females 1 per cent. Education is most advanced among Hindus and Sikhs. The number of pupils under instruction was 872 (in public schools alone) in 1880-1, 8,006 in 1890-1, 5,264 in 1902-3, and 5,439 in 1903-4. In the last year there were 6 secondary and 33 primary (public) schools, and 18 advanced and 165 elementary (private) schools, with 103 girls in the public and 161 in the private schools. The District is very backward in education. Only 6 per cent. of children of a school-going age are receiving instruction. Some progress, however, is being made, and there are two Anglo-vernacular high schools at Abbottābād. The total expenditure on education in 1903-4 was Rs. 24,000, of which the District fund contributed Rs. 8,000, municipalities Rs. 6,000, and fees Rs. 4,000.

The District possesses five dispensaries, at which 83,264 cases were treated in 1904, including 1,266 in-patients, and 2,698 operations were performed. The expenditure was Rs. 11,500, the greater part of which was contributed by Local funds.

In 1903-4 the number of persons successfully vaccinated was 10,574, or 19·5 per 1,000 of the population.

[*District Gazetteer*, 1875 (under revision).]

Hazārajāt, The (or Hazāristān).—A mountainous region in the heart of Afghānistān, lying about midway between *Kābul*, *Herāt*, and *Kandahār*. Very little is known about this region, which forms one of the districts of the Kābul province. It is intersected by high mountains, of which the Koh-i-Bāba is the most prominent. On the southern slopes of this range are the sources of the Helmand and of numerous tributaries which eventually join it. Their upper streams are said to flow through precipitous and gloomy gorges, and their channels only open out as they approach Zamindawar. On the west this region is bounded by the Taimani highlands; on the south by the Kandahār districts of Zamindawar, Dehrawat, and Tirin; on the south-east by Ghazni; and on the north by the Band-i-Bāba. The Hazārajāt

includes the districts of Besūd, Deh Zangi, and Deh Kundi, and is peopled almost entirely by the Hazāras, who number about half a million. The Hazāras, who are Shiahs, are descended from fragments of Mongol tribes that came from the east with the armies of Chingiz Khān and his family, though other races may be represented among them. Their language is in the main a purely Persian dialect. The difficult nature of their country enabled the Hazāras to preserve a practical independence until, between 1890 and 1893, they were subjugated by the late Amīr Abdur Rahmān. A sturdy race of mountaineers, they long continued to cause trouble to the Afghān administration, but all their leading men have now been removed and they are entirely subdued. The present Amīr is trying gradually to contract their limits, and to populate the Hazārajāt with Ghilzais and other Afghān tribesmen. A few Hazāras enlist in the Indian army and give satisfaction. In 1904 the enlistment of a British Hazāra battalion of pioneers was sanctioned; and about the same period the Amīr, for the first time, ordered the recruitment of a few regiments to be exclusively formed of men of this race. In the towns of Afghānistān, and throughout most of the Punjab during the cold season, Hazāras are to be found employed in menial labour, but seldom in any other capacity. Formerly they were sold as slaves, but this practice was put down by the late Amīr with a stern hand.

Hazāribāgh District.—North-eastern District in the Chotā Nāgpur Division of Bengal, lying between 23° 25′ and 24° 49′ N. and 84° 27′ and 86° 34′ E., with an area of 7,021 square miles. It is bounded on the north by the Districts of Gayā and Monghyr; on the east by the Santāl Parganas and Mānbhūm; on the south by Rānchī; and on the west by Palāmau.

Physical aspects.

Hazāribāgh, which, like the rest of Chotā Nāgpur, consists to a great extent of rock and ravine, lies towards the north-eastern extremity of the chain of high land, sometimes a range of hills and sometimes a cultivated plateau, which extends across the continent of India south of the Narbadā river on the west and of the Son river on the east. It is divided naturally into three distinct tracts: an undulating plateau, with an average elevation of about 2,000 feet, extends from the west-central boundary of the District, measuring about 40 miles in length from east to west and 15 miles from north to south; a lower and more extensive plateau, with a general elevation of 1,300 feet, covers the north and east of the District, gradually sinking towards the east; while the central valley of the Dāmodar river, with the country watered by its numerous feeders, occupies the entire south of the District. The principal peaks of the southern plateau are Barāgai or MARANG BURU (3,445 feet above the sea), Jilingā (3,057 feet), Chendwār (2,816 feet), and Aswa

(2,463 feet). Detached hills are LUGU (3,203 feet), MĀHUDI (2,437 feet), and in the east of the District, on the boundary of Mānbhūm, the well-known PARASNĀTH HILL, 4,480 feet above the sea. In the northern plateau is the MAHĀBAR range, rising to an elevation of 2,210 feet above sea-level. The DĀMODAR, which rises in Palāmau, is the most important river of Hazāribāgh, through which it flows in an easterly direction for about 90 miles. Its chief feeders in this portion of its course are the Garhi, Haharo, Naikāri, Maramarhā, Bherā, Kunur, Khanjo, and Jamuniā, and with its tributaries it drains in this District an area of 2,840 square miles; it is everywhere fordable during the dry season. The only other important river, the BARĀKAR, rises on the northern face of the central plateau and flows in an easterly and south-easterly direction till, after draining an area of 2,050 square miles, it leaves the District to form the boundary between Mānbhūm and the Santāl Parganas. The north-west of the District is drained by the Jhikiā and Chako, which unite a short distance outside the boundary; by the Mohanī, Lilājān, and Morhar, which flow northwards into Gayā; and by the Dhādhār, Tilayā, and Sakri. The Ajay rises on the eastern boundary of the District, two of its tributaries draining part of the Girīdih subdivision, while on the south the SUBARNAREKHĀ forms the District boundary for about 15 miles

A description of the geology of Hazāribāgh District would practically be a summary of the characters of any Archaean area. The old felspathic gneisses, well banded and with the composition of typical igneous rocks, are associated with schistose forms and with the results of the intermingling of ancient sediments with igneous matter. Among these are intrusive masses of granite which, under pressure, have assumed a gneissose structure and, on account of the way in which they stand up as small hills of rounded hummocks, have sometimes been referred to as the 'dome gneiss.' They rise up in the midst of bands of schists, which are cut in all directions by veins of acid pegmatite. Patches of Gondwāna rocks occur, some of which contain the coal for which the District is well-known[1].

The narrower valleys are often terraced for rice cultivation, and these rice-fields and their margins abound in marsh and water plants. The surface of the plateau between the valleys, where level, is often bare and rocky, but where undulating is usually clothed with a dense scrub jungle in which *Dendrocalamus strictus* is prominent. The steep slopes of the *ghāts* are covered with a dense forest mixed with many climbers. *Sāl* (*Shorea robusta*) is gregarious; among the other noteworthy trees are species of *Buchanania*, *Semecarpus*, *Terminalia*, *Cedrela*, *Cassia*,

[1] 'The Mica Deposits of India,' by Holland, in *Memoirs, Geological Survey of India*, vol. xxxiv, part ii (1902); 'The Igneous Rocks of Girīdih and their Contact Effects,' by Holland and Saise, in *Records, Geological Survey of India*, vol. xxviii, part iv (1895).

Butea, *Bauhinia*, *Acacia*, *Adina*, which these forests share with the similar forests on the Lower Himālayan slopes. Mixed with these, however, are a number of characteristically Central India trees and shrubs, such as *Cochlospermum*, *Soymida*, *Boswellia*, *Hardwickia*, and *Bassia*, which do not cross the Gangetic plain. One of the features of the upper edge of the *ghāts* is a dwarf palm, *Phoenix acaulis*; striking too is the wealth of scarlet blossom in the hot season produced by the abundance of *Butea frondosa* and *B. superba*, and the mass of white flower along the *ghāts* in November displayed by the convolvulaceous climber *Porana paniculata*.

The jungles in the less cultivated tracts give shelter to tigers, leopards, bears, and several varieties of deer. Wolves are very common, and wild dogs hunt in packs on Parasnāth Hill.

The temperature is moderate except during the hot months of April, May, and June, when westerly winds from Central India cause high temperature with very low humidity. The mean temperature increases from 76° in March to 85° in April and May, the mean maximum from 89° in March to 99° in May, and the mean minimum from 64° to 76°. During these months humidity is lower in Chotā Nāgpur than in any other part of Bengal, falling in Hazāribāgh to 41 per cent. in March and 36 per cent. in April. In the winter season the mean temperature is 60° and the mean minimum 51°. The annual rainfall averages 53 inches, of which 7·6 inches fall in June, 14·4 in July, 13·4 in August, and 8·5 in September.

History.

The whole of the Chotā Nāgpur plateau was known in early history as Jhārkand or 'the forest tract,' and appears never to have been completely subjugated by the Muhammadans. Santāl tradition relates that one of their earliest settlements was at Chhai Champā in Hazāribāgh, and that their fort was taken by Saiyid Ibrāhīm Alī, a general of Muhammad bin Tughlak, and placed in charge of a Muhammadan officer, *circa* 1340. There is no authentic record, however, of any invasion of the country till Akbar's reign, when it was overrun by his general. The Rājā of Chotā Nāgpur became a tributary of the Mughal government (1585); and in the *Ain-i-Akbarī* Chhai Champā is shown as a *pargana* belonging to Bihār assessed at Rs. 15,500, and liable to furnish 20 horse and 600 foot. Subsequently, in 1616, the Rājā fell into arrears of tribute; the governor of Bihār invaded his country; and the Rājā was captured and removed to Gwalior. He was released after twelve years on agreeing to pay a yearly tribute of Rs. 6,000, and his country was considered part of the *Sūbah* of Bihār. From the fact that the ancestor of the Rājās of Rāmgarh (which included the present District of Hazāribāgh) is said to have received a grant of the estate from these Nāgbansi Rājās, it appears that the District formed part of their dominions. The

inroads of the Muhammadans were, however, directed not against the frontier chiefdom of Rāmgarh but against Kokrah, or Chotā Nāgpur proper, to which they were attracted by the diamonds found in its rivers; and though the Rājās were reduced to the condition of tributaries by the Mughal viceroys of Bengal, they were little interfered with so long as their contributions were paid regularly. Even so late as the reign of Aurangzeb the allegiance of the chiefs of this tract must have been very loose, as the Jhārkand route to Bengal is said to have been little used by troops on account of the savage manners of the mountaineers. About this time the first Rājā of Kundā, who was a personal servant of the emperor, received a rent-free grant of the *pargana* on condition that he guarded four passes from the inroads of Marāthās, Bargis, and Pindāris; and in 1765 Chotā Nāgpur was ceded to the British as part of Bihār. The British first came into contact with this tract in 1771, when they intervened in a dispute between one Mukund Singh, the Rājā of Rāmgarh, and his relative Tej Singh, who was at the head of the local army. The latter, who had claims to the estate, went in 1771 to Patna and laid his case before Captain Camac, who undertook to assist him and deputed for the purpose a European force under Lieutenant Goddard. Mukund Singh fled after a mere show of resistance, and the Rāmgarh estate was made over to Tej Singh subject to a tribute of Rs. 40,000 a year. Lieutenant Goddard's expedition did not extend to the Kharakdih *pargana* in the north-est of the District. Six years earlier (1765) Mad Nārāyan Deo, the old Hindu Rājā of Kharakdih, chief of the *ghātwāls* or guardians of the passes, had been driven from his state by the Musalmān *āmil* or revenue agent, Kāmdār Khān, who was succeeded by Ikbāl Alí Khān. The latter was expelled in 1774 for tyranny and mismanagement by a British force under Captain James Brown. The exiled Rājā of Kharakdih, who had exerted his influence on the British side, was rewarded with a grant of the maintenance lands of the Rāj. Possibly he might have been completely reinstated in his former position; but in the confusion of Muhammadan misrule the *ghātwāls* had grown too strong to return to their old allegiance, and demanded and obtained separate settlements for the lands under their control. In the *sanads* granted to them by Captain Brown they are recognized as petty feudal chiefs, holding their lands subject to responsibility for crime committed on their estates. They were bound to produce criminals, and to refund stolen property, they were liable to removal for misconduct, and they undertook to maintain a body of police, and to keep the roads in repair.

In 1780 Rāmgarh and Kharakdih formed part of a British District named RĀMGARH, administered by a Civilian, who held the offices of Judge, Magistrate, and Collector; while a contingent of Native

infantry, known as the Rāmgarh battalion, was stationed at Hazāribāgh, under the command of a European officer. This District was dismembered after the Kol insurrection of 1831–2, when under Regulation XIII of 1833 parts of it were transferred to the surrounding Districts, and the remainder, including the *parganas* of Kharakdīh, Kendi, and Kundā, with the large estate of Rāmgarh, consisting of 16 *parganas*, which compose the present area of the District, were formed into a District under the name of Hazāribāgh. In 1854 the title of the officer in charge of the District was changed from Principal Assistant to the Governor-General's Agent to Deputy-Commissioner.

The most important archaeological remains are the Jain temples at Parasnāth. Buddhist and Jain remains exist on KULŪHA HILL in the Dantāra *pargana*, and a temple and tank to the west of the hill dedicated to Kuleswarī, the goddess of the hill, are visited by Hindu pilgrims in considerable numbers. The only other remains worthy of mention are four rock temples on MĀHUDI HILL, one of which bears the date 1740 Samvat, ruins of temples at Sātgāwan, and an old fort which occupies a strong defensive position at KUNDĀ.

Population.

At the Census of 1872 the population recorded in the present District area was 771,875. The enumeration was, however, defective; and the Census of 1881 showed a population of 1,104,742, which rose to 1,164,321 in 1891 and to 1,177,961 in 1901. The smallness of the increase during the last decade is attributable to the growing volume of emigration to Assam and elsewhere, and also to the heavy death-rate following the famine of 1897, chiefly from fever and cholera, which are always the most prevalent causes of mortality in the District. The principal statistics of the Census of 1901 are shown below:—

Subdivision.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hazāribāgh	5,019	2	5,440	760,164	151	− 0·3	19,680
Girīdīh	2,002	1	3,408	417,797	209	+ 4·0	11,148
District total	7,021	3	8,848	1,177,961	168	+ 1·2	30,828

The three towns are HAZARIBĀGH, the head-quarters, CHATRĀ, and GIRĪDĪH. The population is greatest in the west, in the valley of the Barākar river, where there is a fair extent of level country and the coal mines support a considerable number of labourers. The country west and south-west of the central plateau consists mainly of hill and ravine, and has very few inhabitants. The population declined during the decade ending 1901 in the centre of the District, where recruiting

for tea gardens was most active; but in the Girīdīh subdivision there was a general increase, the growth being most marked in Girīdīh itself, where the coal-mines of the East Indian railway attract a steadily increasing number of labourers. The hardy aboriginal tribes are remarkable for their fecundity and the climate is healthy; but the soil is barren, and the natural increase in the population is thus to a great extent discounted by emigration. It was hence that the Santāls sallied forth about seventy years ago to people the Dāman-i-koh in the Santāl Parganas. This movement in its original magnitude has long since died out, and the main stream of present emigration is to more distant places, Assam alone containing nearly 69,000 natives of this District. The Magahī dialect of Bihārī is spoken by the majority of the population, but Santālī is the vernacular of 78,000 persons. Hindus number 954,105, or 81 per cent. of the total, and Muhammadans 119,656, or 10 per cent.

The most numerous Hindu castes are Ahirs or Goālās (138,000) and Bhuiyās (99,000); many of the Bihār castes are also well represented, especially Kurmīs (76,000), Telis (49,000), Koiris (47,000), and Chamārs (44,000), while among other castes Ghātwāls (40,000), Bhogtās (35,000), and Turis (23,000) are more common than elsewhere, and Sokiārs (12,000) are peculiar to the District. Most of the Animists are Santāls (78,000), and the majority of the Musalmāns are Jolāhās (82,000). Agriculture supports 80·7 per cent. of the population, industries 9·1 per cent., commerce 0·2 per cent, and the professions 0·8 per cent.

Of 1,163 Christians in 1901 about three-fourths were natives. Mission work was begun in 1853 by the German Evangelical Lutheran Mission, but was interrupted by the Mutiny. In 1862 another mission was founded by the same society at Singhāni near Hazāribāgh; but in 1868 an unfortunate split took place, and several of the missionaries went over to the English Society for the Propagation of the Gospel. The work carried on by the German mission is chiefly educational. The Free Church of Scotland opened a branch of its Santāl Mission at Pachambā near Girīdih in 1871, and maintains a dispensary and schools; their evangelistic work is chiefly among the Santāls. The Dublin University Mission, established at Hazāribāgh in 1892, maintains a boys' high school, an upper primary school, and a First Arts college, in addition to dispensaries at Hazāribāgh, Ichak, and Petārbār; but it has not been very successful in making conversions.

Agriculture.

The most fertile land lies in the valleys of the Dāmodar and the Sakri, the agricultural products of the latter resembling those of the adjoining Districts of Bihār rather than those of the neighbouring parts of Chotā Nāgpur. In Kharakdīh the hollows that lie between the undulations of the surface

are full of rich alluvial soil, and present great facilities for irrigation; but the crests of the ridges are, as a rule, very poor, being made up of sterile gravel lying on a hard subsoil. In Rāmgarh the subsoil is light and open, and the surface is composed of a good ferruginous loam, while many of the low hills are coated with a rich dark vegetable mould. The beds of streams are frequently banked up and made into one long narrow rice-field. For other crops than rice the soil receives practically no preparation beyond ploughing. Failures of the crops are due to bad distribution of the rainfall, never to its complete failure; the soil does not retain water for long, and a break of ten days without rain is sufficient to harm the rice crop.

The agricultural statistics for 1903-4 are shown below, areas being in square miles:—

Subdivision	Total	Cultivated	Cultivable waste	Forests.
Hazāribāgh .	5,019	1,616	1,266	64
Girīdīh . .	2,002	878	505	25
Total	7,021	2,494	1,771	89

Rice is the most important crop. *Gorā* or early rice is sown broadcast after the first fall of rain in June, and is reaped about the end of August. *Aghani* or winter rice is sown in June, and reaped in November or December; it is either sown broadcast or transplanted. After rice by far the most important crops are maize and *maruā*. Other food-grains are *gondli*, *urd*, *barai*, *rahar*, *kurthī*, gram, wheat, barley, and *khesāri*; of other food-crops the most important are sugar-cane, *mahuā*, and various vegetables. Oilseeds are extensively grown, consisting chiefly of *sarguja*, *til*, rape-seed, and linseed, while among other products may be mentioned poppy, cotton, and *renu*, a jungle root used for the manufacture of *pachwai*. A little tea is still grown, but the industry is rapidly dying out; in 1903-4 there was only one tea garden, which had an output of 3,700 lb.

The area under cultivation is gradually being extended by terracing the slopes and embanking the hollows, and by bringing under the plough the tops of ridges. The people have no idea of adopting improved agricultural methods, though they are willing to make use of seed given to them, and cultivators near Hazāribāgh and Girīdīh are beginning to grow English vegetables, such as cauliflowers and tomatoes. Loans amounting to Rs. 51,000 were given during the famine of 1897, and Rs. 29,000 was advanced in 1900-1 under the Agriculturists' Loans Act in consequence of a failure of the crops. Little advantage has been taken of the Land Improvement Loans Act.

The breed of cattle is poor. The cattle are ordinarily grazed in

the jungles; land is set apart for pasture in villages in which there is no jungle, but the grass is poor, and the cattle get no proper fodder except just after harvest.

The average irrigated area is estimated at 393 square miles. Irrigation is carried on by means of *bāndhs* and *āhars*, as described in the article on GAYĀ DISTRICT. Well-water is used only for the poppy.

Forests.

Hazāribāgh contains 56 square miles of 'reserved,' and 33 square miles of 'protected' forest. The Kodarmā Reserve, which is the most important forest tract, covers 46 square miles on the scarp of the lower plateau, the elevation varying from about 1,200 feet near Kodarmā to about 500 feet on the Gayā boundary. The predominant tree is *sāl* (*Shorea robusta*), but there are few trees of any size, most of the larger ones having been cut out before the forest was constituted a Reserve in 1880. Bamboos are scattered throughout the Reserve; and the other principal trees are species of *Terminalia*, *Bauhinia*, and *Ficus*, *Bassia latifolia*, *Sterculia urens*, *Cassia Fistula*, *Mangifera indica*, *Semecarpus Anacardium*, *Butea frondosa*, *Lagerstroemia parviflora*, *Woodfordia floribunda*, *Eugenia Jambolana*, and *Phoenix acaulis*. The minor products are thatching-grass, *sabai* grass (*Ischaemum angustifolium*), *mahuā* flowers (*Bassia latifolia*), and myrabolams; but none of these is at present of any great importance on account of the distance of the forest from the railway. Owing to excessive grazing and cutting, the 'protected' forests contain no timber of any size. In 1903–4 the total forest revenue was Rs. 14,500, of which Rs. 10,000 was derived from the rent for mica mines.

Minerals.

From the veins of pegmatite in the gneiss is obtained the mica which has made Hazāribāgh famous. The pegmatites have the composition of ordinary granite, but the crystals have been developed on such a gigantic scale that the different minerals are easily separable. Besides the mica, quartz, and felspar, which form the bulk of the pegmatite, other minerals of interest, and sometimes of value, are found. Beryl, for instance, is found in large crystals several inches thick; schorl occurs in nearly all the veins; also cassiterite (tin-stone), blue and green tourmaline. Lepidolite and fluor-spar occur near Manimundai (24° 37′ N., 85° 52′ E.); columbite, which includes the rare earths tantalum and niobium, exists in one or two places; and apatite, a phosphate of lime, is found in the Lakamandwa mica mine near Kodarmā. Mica in the form of muscovite is the only mineral which has been extracted for commercial purposes. It is worked along a belt which runs from the corner of Gayā District across the northern part of Hazāribāgh into Monghyr. Along this belt about 250 mines have been opened. With the exception of Bendi, which is being tested by means of systematic driving and sinking, these are all worked by native methods. The 'books' of mica are of various sizes up

to 24 by 18 by 10 inches, the more common being about 8 by 4 by 3 inches. The usual practice is to prospect the surface in the rains for these 'books' or indications of them, and then work the shoots or patches during the dry season. The pumping and winding are done by hand. The total output from 238 mines worked in Hazāribāgh in 1903 was 553 tons, valued at 9½ lakhs. The average number of persons employed daily was 5,878, the average daily wages being for a man 2½ to 4½ annas, for a woman 2 annas, and for a child 1 to 1½ annas.

The deposit of cassiterite takes a bedded form conformable to the foliation planes of the gneisses and schists in the neighbourhood of Narangā (24° 10′ N., 86° 7′ E.) in the Pālganj estate, 10 miles west of the Girīdīh coal-field. Unsuccessful attempts were made to work this deposit by a company which ceased operations in 1893, after having carried down an inclined shaft for over 600 feet along the bed of ore. Cassiterite has also occasionally been obtained in mistake for iron ore in washing river sands, and the native iron-smelters have thus obtained tin with iron in their smelting operations. Lead, in the form of a dark red carbonate, has been found at Barhamasia (24° 20′ N., 86° 18′ E.) in the north of the District. Similar material has been found in the soil at Mehandādih (24° 22′ N., 86° 20′ E.), Khesmi (24° 25′ N., 84° 46′ E.), and Nawāda (24° 25′ N., 84° 45′ E.). Argentiferous galena, associated with copper ores and zinc blende, occurs on the Patro river, a mile north-north-east of Gulgo. An unsuccessful attempt was made in 1880 to work these ores. The sulphide of lead, galena, has also been obtained in connexion with the copper-ore deposits of Bāraganda. A deposit, which has been known since the days of Warren Hastings and has been the subject of many subsequent investigations, occurs near Hisātu (23° 59′ N., 85° 3′ E.); an analysis of the ore made by Piddington showed the presence of antimony with the lead. The most noteworthy example of copper ores occurs at Bāraganda in the Pālganj estate, 24 miles south-west of Girīdīh. In this area the lead and zinc ores are mixed with copper pyrites, forming a thick lode of low-grade ore which is interbedded with the vertical schists. Shafts reaching a depth of 330 feet were put down to work this lode by a company which commenced operations in 1882, but apparently through faulty management the undertaking was not successful and closed for want of funds in 1891.

Lohārs and Kols formerly smelted iron in this District, but owing to forest restrictions and the competition of imported English iron and steel, the industry has practically died out. The ore used was principally magnetite derived from the crystalline rocks. Hematite, however, is also obtained from the Barākar stage of the Gondwāna rocks of the Karanpurā field, and clay ironstone occurs in a higher stage of the Dāmodar series in the same area.

The most conspicuously successful among the attempts to develop the mineral resources is in a little coal-field near Girīdīh. The small patch of Gondwāna rocks, which includes the coal in this field, covers an area of only 11 square miles, and includes 3½ square miles of the Tālcher series, developed in typical form with boulder-beds and needle-shales, underlying sandstones whose age corresponds with the Barākar stage of the Dāmodar series. The most valuable seam is the Karharbāri lower seam, which is seldom less than 12 feet in thickness and is uniform in quality, producing the best steam coal raised in India, more than two-thirds of it consisting of fixed carbon. This seam persists over an area of 7 square miles, and has been estimated to contain 113,000,000 tons of coal. The Karharbāri upper seam is also a good coal, though thinner; and above it lie other seams, of which the Bhaddoah main seam was at one time extensively worked. The total coal resources of this field are probably not less than 124,000,000 tons, of which over 15,000,000 have been raised or destroyed. Like practically all the coal-fields of Bengal, the Gondwāna rocks of Girīdīh are pierced by two classes of trap dikes: thick dikes of basaltic rock, which are probably fissures filled at the time at which the Rājmahāl lava-flows were poured out in Upper Gondwāna times; and thin dikes and sheets of a peculiar form of peridotite, remarkable for containing a high percentage of apatite, a phosphate of lime. This rock has done an amount of damage among the coals which cannot easily be estimated, as besides cutting across the coal seams in narrow dikes and coking about its own thickness of coal in both directions, it spreads out occasionally as sheets and ruins the whole or a large section of the seam over considerable areas.

In this field 9 mines employed in 1903 a daily average of 10,691 hands and had an output of 767,000 tons. The East Indian Railway Company, by whom the bulk of the coal in this field is raised, work it for their own consumption, and have invested 15 lakhs in their mines.

The miners are of various castes; but Santāls and the lower castes of Hindus, such as Bhuiyās, Mahlis, Ghātwāls, Chamārs, Dosādhs, and Rajwārs, predominate. The daily wages paid in the mines worked by the East Indian Railway Company are: for coal-cutters, 6 to 8 annas; horse-drivers underground, 4 annas; women (underground), 3 to 4 annas; fitters, 8 annas to R. 1-8-0; and for coolies working above ground, men, 2½ annas to 4 annas; women, 1½ to 2 annas; and children, 1¼ to 1½ annas. One shaft, the deepest in India, has a depth of 640 feet, and nearly all the coal is wound by modern plant.

This is the only field in the District which is regularly worked, but other patches of Gondwāna rocks are also coal-bearing. A patch near the village of Itkhori, 25 miles north-west of Hazāribāgh, includes

about half a square mile of the Barākar stage lying on a considerable area of Tālchers. There are three seams containing possibly about 2,000,000 tons of inferior coal. The Bokāro and Karanpurā fields lie in the low ground of the Dāmodar river, at the foot of the southern scarp of the Hazāribāgh plateau. The Bokāro field commences 2 miles west of the Jherriā field, and is likely to become important with farther railway extensions. It covers 220 square miles and includes coal seams of large size, one of 88 feet thick being measured. The coal resources of this field are estimated to aggregate 1,500,000,000 tons. In the Karanpurā area a smaller tract of 72 square miles has been separated from the northern field of 472 square miles through the exposure of the underlying crystalline rocks. There is a large quantity of fuel available in these two fields; in the smaller there must be at least 75,000,000 tons and in the northern 8,750,000,000. In the Rāmgarh coal-field to the south of the Bokāro field the rocks are so faulted that it may not be profitable to mine the coal [1].

Cotton-weaving is carried on by the Jolāhās, but only the coarsest cloth is turned out. A few cheap wooden toys are made by Kharādis, and blankets by Garcris, while agricultural implements and cooking utensils are manufactured from locally smelted iron ore.

Trade and communications.

The chief imports are food-grains, salt, kerosene oil, cotton twist and European cotton piece-goods; and the chief exports are coal and coke. Of the food-grains, which form the bulk of the imports, rice comes chiefly from Mānbhūm, Burdwān, and the Santāl Parganas, wheat from the Punjab and the United Provinces, and gram from Monghyr and Patna; the other imports come from Calcutta. The coal and coke exported by rail in 1903–4 amounted to 495,000 tons, of which 86,000 tons went to Calcutta, 195,000 tons to other parts of Bengal, 114,000 tons to the United Provinces, and the remainder to the Punjab, Central Provinces, Rājputāna, and Central India. Minor exports are mica, catechu, *sabai* grass, lac, *mahuā*, and hides. Hazāribāgh, Gīrīdīh, and Chatrā are the principal marts, and form the centres from which imported goods are distributed by petty traders. The bulk of the traffic is carried by the East Indian Railway, which taps the

[1] 'The Gīrīdīh Coal-field,' by Saise, in *Records, Geological Survey of India*, vol. xxvii, part iii (1894); 'The Bokāro Coal-field and the Rāmgarh Coal-field,' by Hughes, in *Memoirs, Geological Survey of India*, vol. vi, part ii (1867); 'The Karanpurā Coal-fields,' *Memoirs, Geological Survey of India*, vol. vii, part iii (1869); 'The Itkhori Coal-field,' *Memoirs, Geological Survey of India*, vol. vii, part ii (1872), by Ball; 'The Chope Coal-field,' *Memoirs, Geological Survey of India*, vol. viii, part ii (1872). As regards copper and tin, see 'Geological Notes on N. Hāzāribāgh,' by Mallet, in *Records, Geological Survey of India*, vol. vii, part i (1874), and 'The Copper and Tin Deposits of Chotā Nāgpur,' by Oates, in *Transactions, Federal Institute of Mining Engineers*, vol. ix (1895), p. 427.

District at Girīdīh, but a large amount of goods is carried on pack-bullocks and in bullock-carts.

The only railways at present open are the short branch line connecting Girīdīh with the East Indian main line at Madhupur, and the Gayā-Katrasgarh line recently constructed, which runs through the north-east of the District. The District board maintained in 1903-4 44 miles of metalled and 521 miles of unmetalled roads, besides 336 miles of village tracks. The most important roads, however, are those maintained by the Public Works department, amounting to 201 miles in length (188 miles metalled and 13 miles unmetalled), and including the grand trunk road, which runs for 78 miles through the District, and the road from Hazāribāgh to Rānchī, of which 30 miles lie in the District, and the roads from Hazāribāgh to Barhī and Bagodar and from Girīdīh to Dumri, the aggregate length of which is 82 miles.

Famine.

The District was affected by the famine of 1874. Since then the only severe famine was that of 1897, when distress was general over a broad belt running north and south through the District, the *thānas* most affected being Barhi, Kodarma, Bagodar, Gumia, Rāmgarh, Māndu, and Hazāribāgh. Relief works were opened but were not largely attended, owing partly to the unwillingness of the wilder tribes to engage in unaccustomed forms of labour, and partly to a fear that the acceptance of famine rates of payment would tend to lower wages permanently; a good deal of employment, however, was afforded by the District board, and gratuitous relief was given to beggars and destitute travellers. The daily average number of persons employed on relief works was highest (1,728) in May, while the number in receipt of gratuitous relief reached its maximum (6,836) in June. The expenditure amounted to Rs. 73,000, including Rs. 26,000 spent on gratuitous relief, and loans were granted to the extent of Rs. 51,000.

Administration.

For administrative purposes the District is divided into two subdivisions, with head-quarters at HAZĀRIBĀGH and GIRĪDĪH. The staff at Hazāribāgh subordinate to the Deputy-Commissioner consists of three Deputy-Magistrate-Collectors, while the subdivisional officer of Girīdīh is assisted by a Sub-Deputy-Collector.

The chief civil court is that of the Judicial Commissioner of Chotā Nāgpur. The Deputy-Commissioner exercises the powers of a Subordinate Judge, and a Subordinate Judge comes periodically from Rānchī to assist in the disposal of cases. Minor original suits are heard by three Munsifs, sitting at Hazāribāgh, Chatrā, and Girīdīh. Rent suits under the Chotā Nāgpur Tenancy Act are tried by a Deputy-Magistrate-Collector at Hazāribāgh, by the Munsifs who are

invested with the powers of a Deputy-Collector for this purpose, and by the subdivisional officer of Gīrīdīh; appeals from their decisions are heard by the Deputy-Commissioner or the Judicial Commissioner of Chotā Nāgpur. Criminal cases are tried by the Deputy-Commissioner, the subdivisional officer of Gīrīdīh, and the above-mentioned Deputy and Sub-Deputy Magistrates, and by the Munsif of Chatrā, who has been invested with second-class powers. The Deputy-Commissioner possesses special powers under section 34 of the Criminal Procedure Code, and the Judicial Commissioner of Chotā Nāgpur disposes of appeals from magistrates of the first class and holds sessions at Hazāribāgh for the trial of cases committed to his court. Hazāribāgh is the least criminal District in Chotā Nāgpur, and crime is comparatively light.

In 1835, the first year for which statistics are available, 86 separate estates paid a land revenue of Rs. 49,000. The number of estates increased to 244 in 1870–1, but after that date a number of the smaller estates were amalgamated with others and the total fell in 1903–4 to 157, with a demand of 1·33 lakhs. Of these estates, 72 are permanently settled, 82 are temporarily settled, and 3 are held direct by Government.

In Hazāribāgh District the eldest son takes the entire estate, and provides for the other members of the family by assigning them smaller holdings as maintenance grants. There is thus no tendency to the excessive subdivision of estates which is found in Bihār. Besides these maintenance grants, *jāgīrs* to *ghātwāls*, priests, servants, and others are common. The only unusual form of *jāgīr* is one known as *putraputrādik*, which remains in the family of the grantee until the death of the last direct male heir, after which it reverts to the parent estate. The incidence of revenue is very low, being R. 0–1–4 per cultivated acre, or only 8 per cent. of the rental, which is Rs. 1–2–6 per cultivated acre. The highest rates are realized from rice lands, which are divided into three main classes: *gairā*, the rich alluvial lands between the ridges; *singā*, the land higher up the slopes; and *bād*, the highest land on which rice can be grown. The rates, which are lowest in the central plateau and highest in the Sakri valley, vary for *gairā* land from Rs. 3–10–8 to Rs. 5–5–4 per acre (average Rs. 4–5–4); for *singā* land, from Rs. 2–10–8 to Rs. 4 (average Rs. 3–10–8); and for *bād* land, from Rs. 1–10–8 to Rs. 3–10–8 (average, Rs. 2–2–8). Other lands are classified as *bāri* or *gharbāri*, the well-manured land situated close to the village; *bāhirbāri*, fairly good land situated farther from the homestead; *chirā*, land set apart for growing paddy seedlings; *tānr*, barren land on the tops of the ridges; and *tarri* or rich land on the banks or in the beds of rivers. For these the ryot usually renders predial services in lieu of rent.

Village lands are of four kinds. *Manjhihas* is a portion of the best land set apart for the head of the village. It is frequently sublet, sometimes at a cash rent, but more often on the *adhbatai* system, under which each party takes half the produce. When held *khās*, it is cultivated by the ryots for the proprietor, the latter supplying the seed and a light meal on the days when the villagers are working for him. *Jīban* is land in which the ryots have occupancy rights. *Khundwāt* or *sājwāt* lands are those reclaimed from jungle or waste land, and the ryot and his descendants have a right of occupancy, paying rent at half the rate prevailing in the neighbourhood for *jīban* lands. *Utkar* land is that cultivated by tenants-at-will. The rents of *jīban* and *utkar* lands are usually payable in cash, but in the Sakri valley the system of payment by assessment or division of the produce is common.

The following table shows the collections of land revenue and total revenue (principal heads only), in thousands of rupees :—

	1880-1	1890-1	1900-1	1903-4.
Land revenue .	1,16	1,25	1,31	1,34
Total revenue .	3,94	4,92	5,42	6,74

Outside the municipalities of HAZĀRIBĀGH, CHATRA, and GIRIDIH, local affairs are managed by the District board. In 1903–4 its income was Rs. 96,000, including Rs. 50,000 derived from rates; and the expenditure was Rs. 1,01,000, the chief item being Rs. 59,000 spent on public works.

The District contains 18 police stations or *thānas*, and 20 outposts. In 1903 the force subordinate to the District Superintendent consisted of 3 inspectors, 33 sub-inspectors, 54 head constables, and 431 constables. The Central jail at Hazāribāgh has accommodation for 1,257 prisoners, and a subsidiary jail at Girīdih for 21. The Hazāribāgh Reformatory school has accommodation for 357 boys.

Education is very backward, and only 2·6 per cent. of the population (5·2 males and 0·2 females) could read and write in 1901. The number of pupils under instruction increased from 6,234 in 1882–3 to 15,867 in 1892–3, but fell to 14,345 in 1900–1. In 1903–4, 16,440 boys and 2,014 girls were at school, being respectively 19·2 and 2·2 per cent. of the children of school-going age. The various missions maintain schools for the benefit of the aboriginal tribes. The most notable educational institutions are the Dublin University Mission First Arts college, and the Reformatory at Hazāribāgh. The total number of institutions, public and private, in 1903–4 was 692, including the Arts college, 16 secondary, 643 primary, and 32 special schools. The expenditure on education was Rs. 1,12,000, of which Rs. 38,000 was

met from Provincial funds, Rs. 31,000 from District funds, Rs. 800 from municipal funds, and Rs. 23,000 from fees.

In 1903 the District contained 7 dispensaries, of which 5 had accommodation for 64 in-patients. The cases of 37,411 out-patients and 586 in-patients were treated during the year, and 1,570 operations were performed. The expenditure was Rs. 11,000, of which Rs. 1,200 was met from Government contributions, Rs. 2,000 from Local and Rs. 2,400 from municipal funds, and Rs. 5,000 from subscriptions.

Vaccination is compulsory only in the Hazāribāgh, Gīrīdīh, and Chatrā municipalities. In 1903–4 the number of persons successfully vaccinated was 41,000, or 36 per 1,000 of the population.

[Sir W. W. Hunter, *Statistical Account of Bengal*, vol. xvi (1877); F. B. Bradley-Birt, *Chotā Nāgpur* (1903).]

Hazāribāgh Subdivision.—Head-quarters subdivision of Hazāribāgh District, Bengal, lying between 23° 25′ and 24° 38′ N. and 84° 27′ and 86° 7′ E., with an area of 5,019 square miles. The subdivision consists of three distinct tracts: a high central plateau, a lower plateau extending along the northern boundary, and the valley of the Dāmodar to the south. The population in 1901 was 760,164, compared with 762,510 in 1891, the density being 151 persons per square mile. There are two towns, HAZĀRIBĀGH (population, 15,799), the head-quarters, and CHATRĀ (10,599); and 5,440 villages. The subdivision contains some interesting archaeological remains, consisting of rock temples at MĀHUDI, Buddhist inscriptions at KULUHA HILL, and an old fort at KUNDĀ.

Hazāribāgh Town.—Head-quarters of Hazāribāgh District, Bengal, picturesquely situated in 23° 59′ N. and 85° 22′ E., on the high central plateau of the District, at an elevation of 2,000 feet above sea-level, in the midst of a group of conical hills. Population (1901), 15,799. The town is little more than a cluster of hamlets, with intervening cultivation, which sprung up round the former military bazar. Hazāribāgh has been the head-quarters of the civil administration since 1834. The cantonment lies south-east of the town. The last military force stationed here was the second battalion, 22nd Regiment; but owing to an outbreak of enteric fever in 1874, which resulted in numerous deaths, the troops were withdrawn, with the exception of a small detachment, which was chiefly designed to guard against a possible outbreak of the prisoners in the European penitentiary situated here. Subsequently, on the abolition of the penitentiary, the European troops were entirely withdrawn. Hazāribāgh was constituted a municipality in 1869. The income during the decade ending 1901–2 averaged Rs. 11,600, and the expenditure Rs. 10,800. In 1903–4 the income was Rs. 17,000, of which Rs. 5,000 was derived from a tax on persons (or property tax), and Rs. 4,000 from a conservancy

rate; and the expenditure was Rs. 16,000. The town contains the usual public buildings. The Central jail has accommodation for 1,257 prisoners; the principal articles manufactured are blankets and cloth. The Hazāribāgh Reformatory school has since 1882 occupied the buildings formerly used for the European penitentiary. It is managed by a board subject to the general control of the Director of Public Instruction, and has cubicle accommodation for 357 boys, who are taught weaving, agriculture, tailoring, gardening, carpentry, shoe-making, and blacksmith's work. The chief educational institution is the Dublin University Mission First Arts college, which was opened in 1899.

Hazro. – Town in the District and *tahsīl* of Attock, Punjab, situated in 33° 55′ N. and 72° 30′ E., in the middle of the Chach plain, 4½ miles by metalled road from Hathiān on the grand trunk road, and 7½ miles from Lawrencepur on the North-Western Railway. Population (1901), 9,799. Hazro is a picturesque town, surrounded by rich cultivation, and has a flourishing trade, chiefly in tobacco and sugar, controlled by a few enterprising Hindus. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 18,300, and the expenditure Rs. 17,200. In 1903–4 the income was Rs. 19,200, chiefly from octroi; and the expenditure was Rs. 35,000, including a large investment in securities. An Anglo-vernacular middle school and a dispensary are maintained by the municipality.

Hebli.—Town in the District and *tāluka* of Dhārwār, Bombay, situated in 15° 28′ N. and 75° 8′ E., 7 miles east of Dhārwār town. Population (1901), 5,294. Hebli is situated on rising ground, with an old dilapidated fort in the centre. A weekly market is held here. Hebli was granted in 1748 by Bālājī Bājī Rao Peshwā to an ancestor of the present Sardār. In 1818 Sir Thomas Munro gave the proprietor the neighbouring villages of Kurdāpur and Talva for services to the British Government. Close to the village are a temple of Shambhuling and a ruined temple of Changalovādevī. The town contains a boys' school and a girls' school.

Heggadadevankote. — South-western *tāluk* of Mysore District, Mysore State, lying between 11° 44′ and 12° 12′ N. and 76° 7′ and 76° 31′ E., with an area of 620 square miles. The population in 1901 was 61,416, compared with 61,226 in 1891. The *tāluk* contains two towns, Sargur (population, 2,284) and Heggadadevankote (1,298), the head-quarters; and 276 villages. The land revenue demand in 1903–4 was Rs. 69,000. The greater part is forest, especially in the west and south, which are bordered by Coorg and the Wynaad. In the Kākankote State forest are the principal elephant *kheddas*. The east is mountainous. The Kabhani flows with a tortuous course from south-west to north-east, where it is joined by the Nugu, which runs through the east. The latter has a dam, but the principal irrigation channel is

from a dam on the Lakshmantīrtha in the Hunsūr *tāluk*. Red and dark-brown soils are general, and two crops of *rāgi* are often produced in the year. 'Wet' cultivation is limited, partly owing to the unhealthiness of the irrigated tracts. This country was the ancient Punnāta, mentioned as Pounnata by Ptolemy, who describes it as containing beryl.

Helmand.—A river of Afghānistān which, with its five principal tributaries—the Kaj or Khud Rūd, Tirin, Arghandāb, Tarnak, and Arghastān—drains all the south-western portion of the State. The Helmand rises at Hazār Kāsh, in an upland valley called Chaj Hazāra, on the western slopes of the Paghmān range, and runs for 300 miles in a south-westerly direction through the Hazārajāt, the least-known tract of Afghānistān, before it passes Girishk, about 80 miles west of Kandahār. In the Hazārajāt the Helmand is joined by the Khud Rūd, and in this part of its course it is said to flow in a deep, narrow, and frequently rocky valley, with numerous gorges. Lower down it is joined by the Tirin, and about 35 miles south-west of Girishk by the united waters of the Arghandāb, Tarnak, and Arghastān at Kala Bist. From this junction the course of the Helmand is still south-west, through an arid desert, for 75 miles, when it turns west to Band-i-Kamāl Khān, and then north, finally losing itself in the Seistān Hāmūn. That the whole of its lower valley was once the seat of a large and prosperous population is evidenced by extensive ruins. At the present day inhabitants are few, and cultivation is carried on only in the vicinity of the river. The soil is highly fertile, and with more care in the distribution of the water cultivation could be largely extended. The eastern tributaries of the Helmand—namely, the Tirin, Arghandāb, and Tarnak—are rivers of considerable length; and though their source is not correctly known, it is believed that they rise in the highlands to the west and south-west of Ghazni.

Hemāvati (also called Yenne-hole).—A river of Mysore and one of the chief tributaries of the CAUVERY. It rises in the Western Ghāts in the south-west of Kadūr District, and runs south-east through the Manjarābād *tāluk* to the Coorg frontier, where, joined by some streams from the west, it turns east. Receiving the Yagachi from the north, it then winds round Hole Narsipur, and runs south to the Cauvery near Yedatore, after a course of over 160 miles. It has ten dams, from which about 145 miles of channels are drawn off, irrigating nearly 10,000 acres. The largest channels are the Srīrāmadevar north channel, 47 miles long, in Hassan District, and the Mandigere, 27 miles long, in Mysore District.

Henery.—Island near the entrance of Bombay harbour, off the mainland of Kolāba District, Bombay. *See* UNDERI.

Henzada District (*Hinthada*).—Northernmost District of the Irra-

waddy Division of Lower Burma, lying between 17° 20′ and 18° 31′ N. and 94° 48′ and 95° 47′ E., in the plain of the Irrawaddy, with an area of 2,870 square miles. It is irregularly triangular in shape, with its apex in the north at Akauktaung, a spur of the Arakan Yoma, touching the Irrawaddy 24 miles above Myanaung, and its base along the northern edges of Bassein and Ma-ubin. The Irrawaddy forms nearly the whole of its eastern border. Its western boundary is the forest-clad watershed of the Arakan Yoma, running north and south, which separates it from Sandoway and the coast. To the south of the District lie Bassein and Ma-ubin; to the north Prome. The District is in fact, with the exception of one circle in the south-eastern corner, contained between the Irrawaddy on the east and the barrier of the Arakan Yoma on the west. In the latitude of Myanaung the Arakan range exceeds 4,000 feet in altitude, but from this point southwards it rapidly diminishes in height. From the main ridge spurs run eastwards towards the Irrawaddy, one, in the extreme north of the District, ending in a conspicuous bluff about 300 feet in height, and washed at its base by the stream. As the river pursues its southerly course to the sea it bears away from the hills, leaving between its banks and the uplands the vast stretch of paddy-fields, 60 miles broad in the south, which forms one of the main features of the District. The hilly tract in the west, 12 to 20 miles in width, is characterized by steep slopes and dense tree-jungle. All the plains were up to modern times annually inundated by the river, but the greater portion of this area is now protected by an extensive system of embankments. The Irrawaddy, bounding the District on the east, sets in a general south-south-east course, and is navigable at all seasons by the largest river steamers. Numerous streams flow from the Yoma eastwards towards the Irrawaddy; most of them are entirely dry in the hot season, and nearly all are marked by precipitous banks and tortuous channels. During the rains, however, boats can ply on the lower reaches of their courses in the plains. Of these watercourses the Patashin is the only one of importance that joins the Irrawaddy itself, which it does just below Kyangin in the extreme north of the District. The rest drain into the Bassein (or Ngawun) river, which leaves the Irrawaddy about 9 miles above Henzada, and flows in a general south-westerly direction into Bassein District. The entrance, about 300 yards wide, is choked by a sandbank, which rises above the low-water level of the Irrawaddy. In the rains, however, the largest boats can cross this obstruction. Thirteen miles below this point the Bassein river is joined from the west by the Okpo or Kanyin stream, which rises in the Yoma and runs for about 60 miles through the Okpo township. This river is connected with the Irrawaddy by a channel known as the Thanbayadaing creek. A short distance below

Physical aspects.

the mouth of the Kanyin the Bassein river is augmented by the waters of the Nangathu, formed of various streams from the Yoma, which unite and flow eastwards into the delta country.

The chief lakes are the Nyein-e in the Apyauk circle, the Duya and Eitpyet a few miles from Henzada, and the Tu in the Kanaung township. The last, the largest of the four, is 3 square miles in extent.

The plain is composed of alluvial deposits, which may be divided into an upper and a lower division. The lower consists of coarse gravels transported from a distance; the upper of a very homogeneous but somewhat arenaceous clay of a yellowish colour. The whole deposit has a southward slope exceeding in steepness that of the present surface. The Arakan Yoma in the west is formed by the Negrais rocks passing up into the Nummulitics. Intrusive rocks, which are mostly serpentine, occur in patches.

Like Tharrawaddy, Henzada differs from the true deltaic areas in having no mangrove swamps or tidal jungles. The main vegetation consists of deciduous forests, similar to those in PEGU DISTRICT, while bordering the Irrawaddy are open savannah forests, similar to those of HANTHAWADDY. The riparian vegetation is of the type in PROME. On the upper slopes of the Arakan Yoma are evergreen forests, which have not yet been botanically explored, but probably contain oaks, chestnuts, and species of *Dipterocarpus*.

Tigers, leopards, and elephants are all found, the latter for the most part in the hills to the west. During the rains all of these animals confine themselves for safety to the rising ground; but in the dry season they not infrequently enter the plains, where they destroy cattle or rice according to their nature.

The cold season is short and mild, but the hot months are not very trying, and the means of the maximum and minimum temperatures registered during 1901 were 88° and 68° respectively. The rains usually begin about the end of May, and cease in the middle of October. They have never been known to fail altogether, but the quality of the crops depends upon the distribution of the monsoon. The annual rainfall averages 75 inches at Henzada town, and decreases, as the dry zone is approached, to 58 inches at Kanaung in the north, where there are occasionally complaints of lack of rain. Henzada is too far north to be in the immediate track of cyclones, but destructive floods occur occasionally, though the embankments have largely removed the possibility of serious inundation.

History.

Henzada or Hinthada derives its name from *hintha*, the Burmanized form of the Pāli name for the Brāhmani goose. It formed part of the Talaing kingdom of Pegu which was annexed by Alaungpayā in 1755, but at no time apparently had it an independent political existence. There was no resistance in the

District to the British advance on Prome during the first Burmese War. In the second War the Burmese troops, on hearing of the occupation of Prome, left their fortifications at Akauktaung, at the extreme northern corner of the present District, and were defeated in an attempt to cross the river. This position was not occupied, however, by the British, and was in time stockaded by the Burmans, who kept the country disturbed till the cutting up of a patrol under a British officer, Major Gardner, who was killed, led to the occupation of Akauktaung. Meanwhile the southern areas were in a still more disturbed state than the northern, in consequence, mainly, of the disbandment of the Burmese police. The rebels, led by one Nga Myat Tun, a hereditary *thugyi*, made marauding expeditions into Henzada, Bassein, and Ma-ubin, till they were dispersed at Danubyu in the last-named District. Since then, though crime is always heavy, there have been no serious disturbances. The original Henzada District comprised a portion of the existing District of Ma-ubin and practically the whole of the present Tharrawaddy District, and its limits have been altered more than once in the past thirty years.

Population.

The population at the last four enumerations was as follows: (1872) 256,753, (1881) 363,899, (1891) 437,620, and (1901) 484,558. The principal statistics of area and population in 1901 are given in the following table:—

Township	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Henzada	369	1	520	131,698	357	+ 11	4,394
Zalun	276	1	362	69,502	252	+ 18	18,349
Okpo	694	...	436	84,046	121	+ 14	21,080
Lemyethnā	438	1	354	60,314	138	+ 6	18,186
Kanaung	615	1	428	92,365	150	+ 16	23,089
Kyangin	478	1	243	46,633	98	+ 2	12,200
District total	2,870	5	2,343	484,558	169	+ 11	97,298

Henzada contains more towns than any other District in Burma, the urban population in 1901 being 54,500, which is above 11 per cent. of the total, compared with 7 per cent. for the Irrawaddy Division as a whole. The towns are HENZADA, the head-quarters, ZALUN, KYANGIN, MYANAUNG, and LEMYETHNĀ. The density of population is very high for Burma. Burmese is the language of 418,000 of the inhabitants, while Karen is spoken by 44,000.

In 1901 the Burmans numbered 422,800, or 87 per cent. of the District total. The Talaings have become merged with the Burmans,

and are scarcely represented at all. The Karens in 1901 numbered 45,800. They are distributed all over the District, except in the Kyangin township in the north, and form about one-fourth of the population of the southernmost township, Zalun, and one-seventh of that of Henzada. There are very few Shans, but the Chins on the hills in the west number 3,600, and retain their own language. They are commonest in the two northern townships. Buddhism is the religion of 468,800 persons, including both Chins and Karens; Musalmāns number rather more than 3,000, and Hindus exceed 4,000. The immigrants from India come almost entirely from Bengal and Madras. About half the Muhammadans and three-fourths of the Hindus reside in the municipalities. The number of persons dependent upon agriculture in 1901 was 341,600, or 70 per cent. of the total, a figure higher than the Provincial average. *Taungya*-cutters, or nomadic cultivators, numbered 5,000.

The number of Christians (8,085) is comparatively large. Of these 8,000 are native Christians, the great majority being Karens. The Roman Catholics have several missionaries at work, mostly among the Karens, and a mission to the Chins at Yenandaung has been started recently. The American Baptists have 48 churches and 42 vernacular schools, and also work mainly among the Karens.

Agriculture.

The flatness of the greater part of the District and its position at the head of the Irrawaddy delta render it an area particularly suitable for rice. The whole of the plain was until recently flooded annually by the Irrawaddy, so that the soil is new alluvium, and the extensive system of protective embankments that has been introduced now shelters large areas under rice. Much land is still flooded, however, in the Okpo township north of the Bassein river, where it flows past the end of the Myanaung embankment; and in the Apyauk circle, on the eastern bank of the Irrawaddy, where it makes a sweeping curve from south-east to south-west. The Bassein river, too, is confined only on its left bank, and inundates a large portion of the Lemyethnā township lying west of it. On such lands, and in the low-lying *kwins* in the Henzada and Zalun townships, rice is sown broadcast, the floods frequently necessitating a second sowing; but over the rest of the District it is transplanted from nurseries after the rains have well set in. In the flooded portions of the Lemyethnā township a kind of rice called *kaukhnaung* is planted as late as October or November; and to ensure a crop the villagers dam one of the streams crossing the plain, and tap it by subsidiary channels so as to make it flow on to the various holdings. The *le* (plough) is rarely met with, the *tundon* (which resembles the harrow) being in general use for preparing the ground. Manuring is not uncommon, but as a rule the only fertilization that the land

receives is from the annual burning of rice stubble in the fields. A very large area of garden cultivation lies on the Akauktaung hill, along the Patashin and Okpo rivers, on the high lands adjoining Myanaung and overlooking the Tu lake in the Kanaung township, and along the road from Neikban to Aingthabyu in the Henzada township.

The main agricultural statistics for 1903-4 are shown below, areas being in square miles:—

Township.	Total area.	Cultivated	Irrigated.	Forests.
Henzada . .	369	221	0·8	
Zalun . .	276	124	0·1	
Okpo . .	694	136	...	803
Lemyethnā .	438	89	5·9	
Kanaung . .	615	149	0·2	
Kyangin . .	478	60	...	
Total	2,870	779	7	803

Rice covered 681 square miles in that year. This is a very considerable advance on the figures for 1881, when only 372 square miles were under rice. The increase has been largely the outcome of elaborate protective works. Henzada grows more tobacco than any other District in Burma, and the area under this crop (17 square miles) is extending yearly. Garden cultivation, including plantains, coco-nuts, pineapples, papayas, mangoes, and jack-fruit, increased from 3 square miles in 1881 to 56 square miles in 1903-4, the largest District total in Burma. Of this area, the orchards of the Henzada and Kanaung townships occupy two-thirds. A total of 4,700 acres, for the most part in the Henzada, Kanaung, and Kyangin townships, is under pulse (*pègyi*), a cold-season crop. Miscellaneous non-food crops are grown on 6,400 acres, for the most part in the Zalun and Henzada townships; and maize, gram, and sesamum cover about 1,000 acres each.

Havana and various kinds of Indian tobacco have been tried, but hitherto without much success. The failure is attributed to the attraction these tobaccos have for insects, and to the necessity for greater care and attention than the ordinary Burmese husbandman is disposed to give to their cultivation. No use is made by the cultivators of the Agriculturists' Loans Act; they still prefer to have recourse to the local money-lender when in need of ready cash. A co-operative credit society has, however, been recently started at Apyauk under the provisions of Act X of 1904, and has so far worked successfully.

There are no local breeds of cattle in the District; buffaloes are numerous, but are not by any means as plentiful as kine. Ponies are scarce and of poor quality. Goats are bred almost exclusively

by Indians. Cattle graze for the most part on the higher land not used for rice cultivation, and, in the dry season, along the river banks. Considerable difficulty is found, however, in the southern townships in providing sufficient grazing-grounds for the live-stock.

The embankments, designed to keep the floods back from the low-lying cultivated levels, are one of the main features of Henzada. The northernmost of these, the Kyangin embankment, on the right bank of the Irrawaddy in the north of the District, was begun in 1864 for the protection of Kyangin town and the paddy-fields behind it, along the line of a small embankment previously built by the Deputy-Commissioner. It is 6¾ miles long, and protects about 3,000 acres. The cost was a lakh and a half, and the net revenue from the land brought under cultivation by the work is less than 2 per cent. on the capital outlay; but the benefit the town derives from it has been, apart from this, sufficient to justify the undertaking.

The Myanaung embankment is practically a southern continuation of the last-named work, and was constructed about 1868. It extends down the western bank of the Irrawaddy for 39 miles, and protects nearly 100 square miles. It cost 11 lakhs and now yields a steady profit.

The Henzada embankment, which shelters a further stretch of the western bank of the Irrawaddy, was begun in 1867, along the line of previous constructions made by the villagers or from Local funds, and gradually extended southwards across the District border into Ma-ubin. Its construction has cost nearly 19 lakhs. The total length is 76 miles, and the area protected about 340,000 acres, of which 41 miles and 73,000 acres are within Henzada. In 1903–4 the net addition to the land revenue that resulted from its construction was 36 per cent. on the capital outlay. Floods in 1868 and 1877 caused widespread destruction of crops, and breaches occurred in 1871 and 1890, but without doing much damage. The embankment has gradually been raised, and since the latter year no serious breach has occurred, though the flood of 1893 was the highest recorded.

The Ngawun embankment branches off in a south-westerly direction from the northern end of the Henzada embankment into Bassein District. It was constructed between 1869 and 1884. It is 76 miles long, and, with the Henzada embankment, protects about 1,600 square miles. About 39 miles of embankment and about 500 square miles of protected land are within the limits of Henzada.

Fisheries.

There are 176 fresh-water river and lake fisheries in Henzada District, the leases of which are leased annually by auction for a total of rather more than 2 lakhs. None of the individual fisheries is, however, very large. The most valuable realizes between Rs. 12,000 and Rs. 13,000 at the auction sales. A

good deal of the fish caught is converted locally into *ngapi*, and the fishing industry is on the whole flourishing.

The ten forest Reserves in the District cover an area of 803 square miles, and an additional area of 120 square miles is under settlement. The Reserves are almost entirely in the western part and contain a fair proportion of teak. In the plains the *in* (*Dipterocarpus tuberculatus*) grows freely, and cutch is abundant, mostly in the Myanaung subdivision, while *pyingado* (*Xylia dolabriformis*) is plentiful at the foot of the hills, and is largely used for house-building. A fire-protection scheme was started in 1900, and will probably be extended throughout the Reserves. The forest receipts in 1903-4 were Rs. 64,000.

The District is poor in minerals. An attempt to work the carbonaceous shale in the Okpo township failed in 1882. Petroleum has been discovered at Yenandaung near Myanaung, but the wells have been abandoned.

Trade and communications.

Textile industries, largely subsidiary to agriculture, are common throughout the District, but are confined to local requirements. Henzada and Kyangin excel in silk-weaving, and workers in gold, silver, and iron are fairly numerous in the towns. As in the other delta Districts, fish-curing is carried on largely. There are two rice-mills in Henzada town.

Rice is exported in large quantities to Rangoon by rail, river steamers, and country boats for transhipment to foreign ports, and is also sent by river to Upper Burma in steamers. Other exports to Rangoon are betel-leaves, plantains, sugar-cane, and hides. The principal imports are cotton and silk piece-goods, umbrellas, china-ware, and other articles of European manufacture. Till recently they entered the District almost wholly by river; of late, however, the railway has begun to bring them.

A steam ferry crosses the Irrawaddy between Henzada and Tharrawaw, a village in Tharrawaddy District on the opposite bank, 103 miles by rail from Rangoon. The railway from Henzada to Bassein (81 miles in length) runs south-westwards through the southern part of the District for a distance of 16 miles, with stations at Henzada, Natmaw, and Neikban. This line was opened in 1903, and a second line from Henzada northwards, through Okpo and Myanaung to Kyangin, is under construction. Henzada is a station of call for the mail and cargo steamers of the Irrawaddy Flotilla Company plying between Rangoon and Mandalay, and in addition enjoys regular direct communication with Rangoon. In the rains launches run on the Bassein creek to Bassein and intermediate places, and for a few months in the year there is steam traffic between Henzada and Okpo on the Thanbayadaing. The Irrawaddy is navigable throughout the year by large boats and river steamers, which call at all the principal stations

along the banks. During the floods caused by the rains the sole inter-village communication in the interior of the District is by boat. Roads are used only during the dry season. About 320 miles of road are maintained from Provincial funds, of which 30½ miles are metalled and 289 unmetalled. The District cess fund keeps up seven roads, 38 miles metalled and 30 miles unmetalled. The most important highways are from Henzada to Myanaung (64 miles), and from Henzada to Shage (20 miles). Alongside the embankments run roads from Ngawun to Myenu (25 miles), Ngawun to Nyaunggyaung (52 miles), and Myanaung to Ingauk (39 miles).

Administration.

The District is divided into two subdivisions: Henzada, consisting of the HENZADA, ZALUN, OKPO, and LEMYETHNĀ townships; and Myanaung, consisting of the KANAUNG and KYANGIN townships. As in other parts of Lower Burma, the circle *thugyi* is being gradually abolished as deaths or resignations occur, the village headman (*ywathugyi*) taking his place. Village head men now number 621. The District forms two subdivisions (Henzada and Myanaung) of the Henzada Public Works division. For forest purposes it constitutes part of the Myanaung subdivision of the Henzada-Thongwa Forest division.

Litigation has largely increased of late years, and the Deputy-Commissioner has recently been relieved of civil work by a District Judge with head-quarters at Bassein, who presides over the Bassein and Henzada District courts. The subdivisional courts are presided over by the subdivisional officers concerned, and the township courts of Henzada and Kanaung by a special township judge who sits at Henzada, while at Okpo and Lemyethnā township judges have relieved the township officers of civil business. Sessions cases are tried by the Judge of the Bassein Division. The magistrates' courts are presided over by the appropriate executive officers in the usual way, but the township magistrates of Henzada, Lemyethnā, and Okpo have the assistance of the township judges in disposing of their criminal work. The crime of the District does not differ from that prevalent throughout the Irrawaddy Division, and, as elsewhere in the delta, criminal work is heavy. Dacoities, at one time very common, have decreased within the last few years; but robberies, thefts, and grievous hurt cases are still numerous.

At annexation, in 1852, the revenue paid by the District into the coffers of the king of Burma was slightly over 2 lakhs, though much more than this must no doubt have been collected. The chief items were the house-family tax, a tax on land per yoke of oxen, and one on fisheries. Taxes on brokers and transit dues also existed, but these were abolished and excise duties levied in their place after the British occupation.

The greater part of the cultivated lands from the Irrawaddy to the foot of the Arakan Yoma was brought under settlement between 1862 and 1868, when rates varying from 12 annas (on the remote interior *kwins*) to Rs. 1–12–0 were levied on each acre of rice land. In 1873–4 a revision of rates took place in the Kyangin township and the northern circles of the Kanaung township, and the rates in this area were raised to R. 1 or Rs. 1–10–0 per acre on rice land, while the rate on gardens, which as a general rule was Rs. 1–12–0, was changed to one varying from Rs. 1–8–0 to Rs. 2. At the same time an enhancement was effected in the Henzada township, which raised the maximum from Rs. 1–12–0 to Rs. 2. In 1879–80 a general raising of assessment took place all over the District, ranging from 15 to 25 per cent. The rates prevailing after this enhancement varied from Rs. 1–4–0 to Rs. 2–2–0 on rice land, but the maximum on gardens continued to be Rs. 2. Resettlement operations were undertaken throughout the District in 1883–6, when rates were introduced varying from 12 annas to Rs. 2–8–0 for rice, and from Rs. 2 to Rs. 2–8–0 for gardens. In 1899–1901 the whole cultivated area of the District (except a portion referred to later) was regularly resettled. The new rates vary from 12 annas to Rs. 4 on rice lands, with uniform assessments of Rs. 3 on gardens, Rs. 2 on *mayin* rice, Rs. 2–8–0 on tobacco and miscellaneous cultivation, and Rs. 10 on betel-vines. The interior of the three northern townships at the foot of the Yoma, where cultivation occurs only in patches, was not touched in the settlement operations in 1885–6, and this tract (averaging about 8 miles in width) was resettled in 1900–1. The following rates were then introduced and are still enforced: on *kaukkyi* rice lands, R. 1 to Rs. 3; on *mayin* rice lands, Rs. 2; on gardens, Rs. 2 and Rs. 3; and on miscellaneous cultivation, Rs. 1–8–0 to Rs. 2–8–0.

The steady growth of the revenue in the past may be gathered from the following table, which shows land revenue and total revenue, in thousands of rupees, since 1880–1:–

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	4,62	6,92	8,45	12,40
Total revenue . .	10,76	13,57	16,24	25,23

The total revenue for 1903–4 includes Rs. 4,49,000 from capitation tax, Rs. 2,04,000 from fisheries, and Rs. 3,22,000 from excise.

The District cess fund is maintained chiefly by a levy of 10 per cent. on the total land revenue, and is administered by the Deputy-Commissioner for the provision of various local needs. The income in 1903–4 was 1·43 lakhs, and the chief items of expenditure were public works (Rs. 42,000) and education (Rs. 27,000).

There are four municipalities, HENZADA, ZALUN, KYANGIN, and MYANAUNG; and one town under a town committee, LEMYETHNĀ.

The District Superintendent of police is aided by two Assistant Superintendents in charge of the two subdivisions; and the force comprises 4 inspectors, 10 head constables, 33 sergeants, and 301 constables. Fifteen village headmen are on the paid staff of the rural police. The District contains 15 police stations and one outpost. The military police has a strength of 3 native officers and 187 rank and file. Of these, 76 are stationed at Henzada, and 39 at Myanaung, the rest being distributed at the different township head-quarters. The District contains two jails, one at Henzada and one at Myanaung. The first has accommodation for 521 prisoners, who work at rice cultivation, brick-making, carpentry, and cane-work. The second is designed to hold 88 prisoners, and its inmates are engaged in gardening and basket-work.

The percentage of literate persons in 1901 was 26 (47·6 males, and 5·4 females). The increase of education in the District since 1880 can be gauged from the number of pupils: (1880–1) 5,446, (1890–1) 6,712, and (1900–1) 14,252. In 1903–4 there were 2 special, 18 secondary, 272 primary, and 502 elementary (private) schools, with 12,979 boys and 2,472 girls. The total expenditure on education was Rs. 65,800, which was met from the following sources: municipal funds (Rs. 13,300), District cess (Rs. 27,000), Provincial funds (Rs. 8,600), and fees (Rs. 16,300).

There are 5 hospitals and a dispensary, with accommodation for 68 in-patients. In 1903 the number of cases treated was 52,113, including 1,008 in-patients, and 802 operations were performed. The total expenditure was Rs. 19,200, towards which municipal funds contributed Rs. 14,800, Local funds Rs. 3,600, and subscriptions Rs. 800.

Vaccination is compulsory only within municipal limits. In 1903–4 the number of persons successfully vaccinated was 39,772, representing 82 per 1,000 of population.

[J. Mackenna, *Settlement Reports* (1901 and 1902); B. Samuelson, *History of Embankments, Henzada Division* (1889).]

Henzada Subdivision.– Southern portion of Henzada District, Lower Burma, occupying about two-thirds of the whole, and comprising the HENZADA, ZALUN, OKPO, and LEMYETHNĀ townships.

Henzada Township.—Township in Henzada District, Lower Burma, lying between 17° 24′ and 17° 50′ N. and 95° 12′ and 95° 33′ E., with an area of 369 square miles. It lies between the Irrawaddy and the Ngawun, and is a level plain, almost entirely protected by embankments, the Hleseik circle, surrounding the mouth of the latter river, alone being liable to inundation. The population in 1901 was 131,698, compared with 118,839 in 1891. Except in Henzada town,

there are very few natives of India. The Karens in 1901 numbered 16,000, and the majority of the rest of the population is Burman. The density outside municipal limits is high for Burma, being 291 persons per square mile. The township contains 520 villages and one town, HENZADA (population, 24,756), the township and District head-quarters. The area cultivated in 1903-4 was 221 square miles, paying Rs. 3,80,000 land revenue.

Henzada Town.—Head-quarters of the District of the same name in Lower Burma, situated in 17° 39′ N. and 95° 30′ E., on the western bank of the Irrawaddy, 9 miles below the bifurcation of the Bassein river, and 110 miles by rail from Rangoon. Henzada is said to have been founded early in the sixteenth century; but, although it has been an important town for a long time, its history is uneventful. The population has increased steadily during the last thirty years, the total in 1901 being 24,756, of whom 21,530 were Buddhists, 2,145 Hindus, and 742 Musalmāns. The Hindus have largely increased during the past decade, but the Musalmāns show a falling off. The town is agreeably situated, is well shaded by fine trees, and contains a large court-house, a jail, an extensive bazar near the steamer *ghāt*, a hospital and other public buildings, all at no great distance from the river bank. Henzada is a trade centre of some importance. Till recently its commerce has been wholly river-borne, but the new Rangoon-Bassein railway which passes through the town will probably alter the route of a good deal of the trade. It is the terminus of the western (Henzada-Bassein) section of the railway, and the Henzada station is connected by a steam ferry with Tharrawaw, the terminus of the eastern section on the farther side of the Irrawaddy. Two rice mills and one saw-mill of recent construction are worked in the town, and milled rice is sent to Upper Burma by boat and to Rangoon by both rail and boat. This is the only export of importance. The town was constituted a municipality in 1874. The municipal income and expenditure during the ten years ending 1901 averaged Rs. 72,000 and Rs. 70,000 respectively. In 1903-4 the totals were 1·2 lakhs and 1·1 lakhs. The principal sources of income in the last-named year were the house tax (Rs. 14,000), market dues (Rs. 46,000), and the conservancy tax (Rs. 8,000); and the principal items of expenditure were conservancy (Rs. 15,500), roads (Rs. 34,000), and hospital (Rs. 11,000). A municipal Anglo-vernacular school has 180 pupils, and other teaching institutions are managed by missionary bodies and others. The educational expenditure of the municipality in 1903-4 was Rs. 7,000. The municipal hospital has accommodation for 28 in-patients.

Herāt Province.—Western province of Afghānistān, bounded on the north by Russian territory; on the west by Persia; on the south by the province of Kandahār; on the east by Afghān-Turkistān and by

the province of Kābul, from which it is divided by the watershed between the Farrah Rūd and Helmand basins. The province is drained by the Murghāb, the Hari Rūd, the Adrāskan, and the upper affluents of the Farrah Rūd. On the east lie the Hazāra mountains, on the west the Khorāsān deserts. On the south the country is open; and the great trade routes from Kandahār to Seistān lead through the broad space between the Taimani hills and the Persian deserts.

The most populous and fertile part of the province is that comprised in the districts of Herāt, Ghoriān, Obeh, and Karokh. North of this fertile tract is the Siāh Būbak range, known to the Greeks as the *Paropamisus*, a prolongation of the middle branch of the Koh-i-Bāba. North of Herāt city, and east, the hills are of some height, the peaks rising to 4,000 or 5,000 feet above the valley. North again of the Siāh Būbak is the district of Bādghis, for the most part an expanse of rolling downs, becoming more mountainous towards the east. East of the Herāt valley and Bādghis is a wild mountainous country, inhabited by Fīroz Kohis and Taimanis, with a few Hazāras. This is a region of barren, rugged mountains, whose peaks rise to 10,000 and 12,000 feet. Here are the three branches of the Koh-i-Bāba, the northern known as the Band-i-Turkistān; the central as the Siāh Būbak or Koh Siāh; and the southern as the Band-i-Baiān or Safed Koh. Between the two first is the country of the Fīroz Kohis; between the two last is the Hari Rūd valley, which is also occupied in the upper part by Fīroz Kohis; and south of the Band-i-Baiān is the Taimani country. South of Herāt city lies the open country of the Sabzawar district.

The province is divided into the following administrative divisions, the sub-governors of which are subordinate to the governor of Herāt: the city of Herāt, with the Nan Bulāk; Ghoriān; Sabzawar; Karrukh; Obeh; Sūbah-i-Sarhaddi, including all the minor districts north of the Koh Siāh; Chakcharān; Shahārak; and Ghorāt. The population of the whole province has been estimated at about half a million. The great majority are Herātis, i. e. Persian-speaking people of Irānian origin; but large numbers of Afghāns (Durrānis, Ghilzais, and Kākars) have during the last twenty years been settled on the northern frontier. Chahār Aimāk is a collective name given to the Jamshedīs, Fīroz Kohis, Taimūris, and Taimanis. They number about 180,000. The Jamshedīs and Fīroz Kohis are of Persian origin. The Taimanis are also in the main of Persian stock, differing from the others in that they have a strong section, to which the chief belongs, of Afghān-Kākar descent. The Kila Nao Hazāras are descended from fragments of various Hazāra clans removed to their present lands by Nādir Shāh. All are semi-nomadic in habit, and all speak dialects of Persian.

For history and trade see HERĀT CITY.

Herāt City.—Capital of the province of the same name in Afghān-

istān, situated in 34° 22′ N. and 62° 9′ E., in a fertile and well-watered valley, about 3 miles from the right bank of the Hari Rūd, 407 miles from Kandahār via Farrah and Sabzawar, and 469 from Kābul; 3,026 feet above the sea. The plain surrounding the city is closely studded with villages, especially on the south, east, and west. These villages are, as a rule, large and straggling, with walled gardens and orchards. The fortifications and ditch are kept in excellent order, and a strong Afghān force is always maintained within the walls. The city, nearly square in plan, has five gates, two on the north face, and one on each of the others. There are four bazars meeting under a domed structure, called the Chārsu, at the cross-roads in the centre of the city. Near the Chārsu the shops are apparently rich and flourishing; but the farther away from it, the more squalid and poor they become. Beyond the four main thoroughfares of bazars, there are no roads properly so called. The interior of the city is a crowded mass of small domed hovels, built of mud or sun-dried bricks, and intersected by narrow alleys, many of them arched over. The only pieces of open ground in the city, and these of small dimensions, are the space around the governor's house, the gun park, the barracks, and an open square near one of the gates on the north face. The principal buildings are the Jāma Masjid and the Ark-i-Nao, or 'new citadel.' The latter is of comparatively recent construction; the former was built at the end of the fifteenth century in the reign of Shāh Husain. Originally a splendid edifice, 465 feet by 275, and adorned with gilding, carving, mosaics, &c., it is now much out of repair.

The total population of Herāt, exclusive of the garrison, is probably between 10,000 and 14,000. There are said to be over 1,300 shops in the city, representing 53 different trades and occupations, and giving employment to 3,500 persons. It is an important centre for the trade of the outlying districts. The principal exports are wool, silk, pistachios, opium, asafoetida, sheepskins, and astrachans; the principal British imports are indigo, tea, sugar, cotton cloth, muslin, drugs, and porcelain goods. Of recent years, Russian goods—chintzes, silk and cotton cloth, certain kinds of broadcloth, hardware, and sugar—have commenced to obtain a footing in the Herāt market.

Herāt, the foundation of which, as *Alexandria Arion*, is ascribed to Alexander the Great, is not only the capital of a province, but has a strategical value and historical reputation which have given to its possession a moral influence out of all proportion to its present importance whether as a city or as a fortress. It enjoys the pre-eminence of having stood more sieges, and having been depopulated and destroyed more often, than almost any other city in Central Asia. It has invariably risen from its ruins, if not always with renewed splendour, at all events with a vigour that is without parallel. After

Alexander's death Herāt passed successively under the domination of the Seleucids, the Parthians, and the Sassanids; and on the extinction of their empire it was captured (661) by the Arabs, under whom it became one of the great cities of the Muhammadan world. After the break-up of the Khalīfat it fell in turn to the Persian dynasties of the Saffārids and Sāmānids, to the Ghaznivids and to the house of Ghor, and to the Khwārizm Shāhs. Then came the Mongol conquest, after which the Karts, an offshoot of the Ghorids, established a local dynasty (1245–1389) which was overthrown by Tīmūr Lang. From his descendants it passed to the Safavid kings of Persia, and on their decline was for a short time held by the Durrānis. Regained for Persia by Nādir Shāh in 1730, it was added in 1751 to the Durrāni kingdom of Ahmad Shāh, and on the dissolution of that kingdom became an independent principality under his great-grandson Kāmrān. In 1823, while Kāmrān was in power, the Persians attacked Herāt and were defeated. In 1837 they renewed the attack with 35,000 men; but after a siege which lasted for ten months, and which was only unsuccessful owing to the splendid services of Lieutenant Eldred Pottinger, who had arrived from Kābul just before it commenced, they were compelled to retire, on the appearance of Colonel Stoddart with power to threaten the Shāh with the hostile intervention of Great Britain. After the retirement of the Persian army, the British Government proclaimed the independence of Herāt under Shāh Kāmrān, and a treaty was concluded with the latter in 1839 whereby his independence was guaranteed. Shāh Kāmrān's all-powerful Wazīr, Yār Muhammad Khān, objected to concede the terms which the British demanded in return for the guarantee, and commenced to intrigue with Persia. Early in 1842 he murdered his master and usurped the government. Under his vigorous rule Herāt began to prosper, but he died in 1851 and was succeeded by a son who proved to be imbecile and profligate. The latter was ousted soon afterwards by Muhammad Yūsuf Khān Sadozai, his cousin. Early in 1856 the Shāh of Persia again sent an army to Herāt; but though Muhammad Yūsuf Khān was Persian at heart, the people expelled the Persian advance guard and hoisted British colours. Muhammad Yūsuf was sent to the Persian camp, the people rallying round Isa Khān, who wrote to the Amīr Dost Muhammad, declaring himself a servant of the Kābul government and inviting the Amīr to march on Herāt. He was, however, unable to hold out, and in October Herāt surrendered to the Persians. At the close of the war between Great Britain and Persia in March, 1857, the Shāh withdrew his forces from Herāt, having first installed Sultān Ahmad Khān as ruler of the province. In 1861 a quarrel arose between Sultan Ahmad and Amīr Dost Muhammad; the latter advanced on Herāt in the following

year; and after a siege of ten months, during which Sultān Ahmad died, the fort fell into his hands. Since then Herāt has remained subject to the Amīrs of Afghānistān.

Hijilī Tidal Canal.—Navigable canal in Midnapore District; Bengal, with a length of 29 miles, extending from Geonkhāli at the junction of the Rūpnārāyan and Hooghly rivers to the Rasūlpur river, whence the ORISSA COAST CANAL forms a continuation to the south-west. It is divided into two ranges by the Haldī river, and was commenced in 1868 and completed in 1873. The estimated value of the goods carried in 1902–3 was 39·2 lakhs, and the net revenue was Rs. 5,000, representing a return of 0·2 per cent. on the capital expenditure. In 1903–4 the total receipts amounted to Rs. 42,000 and there was a net revenue of Rs. 17,000; while the capital account stood at 26·15 lakhs on March 31, 1904.

Hijilī Village.—Name of an old village in Midnapore District, Bengal, situated at the mouth of the Rasūlpur river. The site has long since been washed away. Hijilī was formerly the centre of an extensive salt manufacture, and the Muhammadans had a fort here. A mosque was built by Masnad Alī Shāh, who held the neighbouring district from 1505 to 1546, and whose tomb is still visited by pilgrims. In 1687, after the skirmish at Hooghly, Job Charnock occupied Hijilī on behalf of the East India Company and was besieged there for four months by a strong Mughal force. Eventually the Muhammadans raised the siege, whereupon Charnock evacuated the place and shortly afterwards laid the foundation of Calcutta. The name of Hijilī was also given to a littoral tract of 1,014 square miles, extending along the right bank of the Hooghly river from the confluence of the Rūpnārāyan to that of the Subarnarekhā, and lying between 21° 47′ and 21° 53′ N. and 87° 53′ and 87° 59′ E.; it contained among others the two large *parganas* of Tamlūk and Mahishādal, and, under Muhammadan rule, constituted a separate administration. In 1836 it was included in Midnapore District, with the exception of a small tract in the south which was added to the adjoining District of Balasore. Salt manufacture was discontinued about forty years ago owing to the competition of cheaper Liverpool salt.

[For an account of the siege of Hijilī, see C. R. Wilson, *Early Annals of the English in Bengal* (1895), pp. 103–11.]

Hilli.—Village in Bogra District, Eastern Bengal and Assam, situated in 25° 17′ N. and 89° 1′ E., on the old Jamunā river and on the northern section of the Eastern Bengal State Railway. Population (1901), 1,047. It is a large rice and jute mart, goods being transported by both river and railway.

Hill Tippera (*Tripurā*).—Native State in Eastern Bengal and

Assam, lying between 22° 56′ and 24° 32′ N. and 91° 10′ and 92° 22′ E., with an area of 4,086 square miles. It is bounded on the north by the District of Sylhet; on the west by Tippera District and Noākhāli; on the south by Noākhāli, Chittagong, and the Chittagong Hill Tracts; and on the east by the Lushai Hills and the Chittagong Hill Tracts.

Physical aspects.

The lie of the country is similar to that of the Chittagong Hill Tracts. Six principal ranges of hills, increasing in height towards the east, run north and south, with an average interval of 12 miles. The hills are clothed for the most part with bamboo jungle, while the low ground is well timbered and covered with cane-brakes and thatching-grass. Along the north-western and southern boundaries of the State lies a narrow strip of low land, differing in no material respect as regards soil, agriculture, and population from the adjoining portions of Sylhet, Tippera, Noākhāli, and Chittagong Districts. Along the western border, for some miles to the north and south of the capital, the country may be described as broken ground, consisting of hillocks alternating with marshy valleys. These hillocks are utilized as sites for homesteads, and the valleys have been converted into rice-fields.

The principal hill ranges, beginning from the east, are the Jāmpai (highest points, Betling Sīb, 3,200 feet, and Jampai, 1,860 feet), Sakhantlang (highest point, Sakhan, 2,578 feet), Langtarai (highest point, Phengpuī, 1,581 feet), and Athāramura (highest points, Jārimura, 1,500 feet, and Athāramura, 1,431 feet). These hills form a watershed from which the drainage pours down north by the Khowai, Dolai, Manu, Jūri, and Langai, west into the Meghnā by the Gumtī, and south-west into the Bay of Bengal by the Fenny and Muharī. All of these rivers are navigable by boats of 4 tons burden during the rains, and by boats of 2 tons burden in the dry season. The Muharī, with its tributary the Seloniā, and the Fenny are tidal rivers. Near the source of the Gumtī is a waterfall, known as the Dumbura fall; the scenery in its neighbourhood is exceedingly picturesque.

So far as is known, the rock formation is Upper Tertiary; the plains are covered by recent alluvial deposits. The hills are clothed, in the south, with a forest very similar in appearance and composition to that of Chittagong; and *Laurineae*, *Dipterocarpeae*, *Ternstroemiaceae*, *Euphorbiaceae*, and *Leguminosae* are well represented. The north is drier and densely covered by bamboo jungle. The thick forests which clothe the hills shelter wild elephants, rhinoceros, tigers, and bears; pythons are common and are eaten by the Lushais.

The climate is healthy and the temperature moderate. The annual rainfall averages 76 inches, of which 5 inches fall in April, 11 in May, 15 in June, 12 in July, 11 in August, and 10 in September. The

earthquake of 1897 destroyed many buildings and shrines in Agartalā, and raised the beds of several rivers, notably of the Manu.

History.

The origin of the name Tripurā is uncertain. A mythical account of the ancient history of the State is contained in the *Rājmāla*, or Chronicles of the Kings, which was commenced in the fifteenth century; it was written in Bengali verse by Brāhman *pandits* attached to the court. The Rājā claims descent from Druhyu, son of Yayāti, of the Lunar race. The chief points of interest contained in these chronicles are that the State was ever at feud with its neighbours, and that Siva worship took early root and was associated with the practice of human sacrifice. The ancient kingdom of Tippera at various times extended its rule from the Sundarbans in the west to Burma in the east, and northwards as far as Kāmrūp. The State was first overrun by the Muhammadans under Tughril in 1279, and was again invaded by Ilyās Shāh in the middle of the fourteenth century, and by Nawāb Fateh Jang in 1620. The plains portion (the present District of Tippera) was not, however, annexed to the Mughal empire until 1733. Hill Tippera proper was never assessed to revenue and remained outside the sphere of Muhammadan administration, although influence was usually exercised in the appointment of the Rājās. The military prestige of the Tippera Rājās was at its height during the sixteenth century, when Bijoy Mānikhya defeated the Muhammadan troops who defended Chittagong, and occupied parts of Sylhet and Noākhāli.

After the East India Company obtained the *dīwāni* of Bengal in 1765 they placed a Rājā on the throne, and since 1808 each successive ruler has received investiture from the Government. In 1838 it was held by the Deputy-Governor of Bengal that, owing to his unchallenged possession from at least 1793, the Rājā had obtained a prescriptive right to the territory within the hills. Between 1826 and 1862 the eastern portion of the State was constantly disturbed by Kūki raids, in which villages were burned and plundered, and the peaceful inhabitants massacred. An account of the action taken by the British Government to put an end to these raids will be found in the article on the LUSHAI HILLS.

The present chief is Rājā Rādhā Kishore Deb Barman Mānikhya, who was invested in 1897. The title of Mānikhya, which is still borne by the Rājās, was bestowed first on Rājā Ratnaphā, by the king of Gaur, about 1279. The Rājā receives a salute of 13 guns.

Both as regards its constitution and its relations with the British Government, the State of Hill Tippera differs alike from the large Native States of India, and from those which are classed as tributary. Besides being the ruler of Hill Tippera, the Rājā also holds a large landed property called CHĀKLA ROSHNĀBĀD, situated in

the plains of the Districts of Tippera, Noākhāli, and Sylhet. This estate covers an area of 570 square miles, and is the most valuable portion of the Rājā's possessions; it yields a larger revenue than the whole of Hill Tippera, and it is held to form with the State an indivisible Rāj. Disputes as to the right of succession have occurred on the occasion of almost every vacancy in the Rāj, producing in times gone by disturbances and domestic wars, and exposing the inhabitants of the hills to serious disorders and attacks from the Kūkis, who were always called in as auxiliaries by one or other of the contending parties. The principles which govern succession to the State have recently, however, been embodied in a *sanad* which was drawn up in 1904. This lays down that the chiefship is hereditary in the Deb Barman family, and that the chief may nominate any male member of his family descended through males from him or any of his male ancestors to be his Jubrāj or successor. Should the ruling chief die without nominating his successor, his nearest male descendant through males according to the rule of lineal primogeniture is to succeed to the chiefship, and failing such descendant, his nearest male heir descended from any male ancestor of his. Finally, every succession to the chiefship requires as heretofore the recognition of the Government of India.

In 1871 an English officer was first appointed as Political Agent to protect British interests and to advise the Rājā. In 1878 his post was abolished, and the Magistrate of the adjoining District of Tippera was appointed *ex-officio* Political Agent of Hill Tippera, a Bengali deputy-magistrate being stationed at Agartalā as Assistant Political Agent; ultimately, in 1890 this latter post was abolished.

Population.

The population in 1901 was 173,325, which gives a density of 42 persons to the square mile; the hills can support only a scanty population. The people live in one town, AGARTALĀ, and 1,463 villages. The recorded population increased from 35,262 in 1872 to 95,637 in 1881, and to 137,442 in 1891; but the first two enumerations were probably inaccurate. The increase of 26 per cent. in 1901 was due mainly to the growing immigration from the neighbouring Districts, 44,000 immigrants having been enumerated in 1901. The same reason explains the deficiency of females, there being only 874 to every 1,000 males. Of the population 44 per cent. speak Tippera or Mrung, a dialect of the Bodo family, of which Kāchārī and Gāro are the other most important representatives, and 40 per cent. Bengali; many of the remainder speak languages of the Kūki-Chin group, such as Manipurī and Hallām. Hindus form 69 per cent. of the inhabitants, Musalmāns 26 per cent., Buddhists 3 per cent., and Animists less than 2 per cent.

The Tipperas are a Mongolian race, and appear to be identical with

the Murungs of Arakan. Outside the State and Tippera District they are found in large numbers only in the Chittagong Hill Tracts. In Hill Tippera they number 76,000, and are divided into Purān or original Tipperas, and Jāmātias, the fighting caste. There are two other divisions which are not regarded as true Tipperas: the Nawātiās, who are said to have come from Chittagong; and the Riyāngs, who are of Kūki origin and were formerly the *pālki*-bearers of the Tippera Rājās. Although the religion of the tribe is returned as Hindu, it is a curious mixture of Hinduism and Animism; the old tribal gods have not yet been ousted, and they are worshipped side by side with those of the Hindus by tribal priests called Ojhas. A list of the deities worshipped will be found on pp. 186 and 187 of the *Census Report*, 1901. The family gods of the Tippera kings are known as the *chaudah devatā*, or 'fourteen gods'; and they include Tuimā, a river goddess, Lāmpra, the god who rules the sky and ocean, and Burāsa, the forest god, the remainder being Hindu deities. Goats and buffaloes are sacrificed at their shrines, and in former times human beings were immolated. The marriage customs of the hill tribes are primitive. When a young man wishes to marry a girl, he serves for one to three years in her father's house. Infant marriage is rare, and divorce and the remarriage of widows are allowed. The dead are cremated. The other castes are immigrant Manipuris, and Kūkis and Chakmās from the CHITTAGONG HILL TRACTS. Agriculture supports 91 per cent. of the population and industries 3 per cent.

Agriculture.

The nomadic tillage known as *jhūm* cultivation is almost universal, except in the narrow strip of plain which adjoins British territory. The forest on a hill-side is cut, and burnt when it has dried; and as soon as the rains break, seeds of various crops are sown in holes made for the purpose. No agricultural statistics are available; but the principal crop and main food staple is rice, both in the plains and in the hills. Other crops grown in the plains are jute, tobacco, sugar-cane, mustard, chillies, and onions; and in the hills cotton, chillies, and sesamum. Attempts have been made of late years to induce the Tipperas to resort to plough cultivation, and a few agricultural banks have been established by the State; a model farm has also been started. The breeds of buffaloes are known as Manipuri and Bangar; the former are the stronger. Pasturage is abundant.

The forest which covers the hills contains *sāl* (*Shorea robusta*), *tūn* (*Cedrela Toona*), *gamhār* (*Gmelina arborea*), *jārul* (*Lagerstroemia Flos Reginae*), and *garjan* (*Dipterocarpus turbinatus*), and large quantities of bamboos and canes. The timber and other produce are floated down the rivers, and the wood is largely used for boat-building; the export duty on forest produce yields over 2 lakhs annually to the State.

An area of 15 square miles of forest has been reserved, in which teak, mahogany, *sissū* (*Dalbergia Sissoo*), rubber, and mulberry are being cultivated.

Trade and communications.

The only manufacture is cotton cloth of the coarsest quality made by the Manipuri and Tippera women. The principal exports are cotton, timber, sesamum, bamboos, canes, thatching-grass, and firewood; an export duty is levied on all these articles. The imports are salt, kerosene oil, tobacco, and European piece-goods. The chief trade centres are AGARTALĀ, Khowai, Kailāshahar, UDAIPUR, Bisālgarh, and Mohanpur; business is chiefly in the hands of Indian Sāhās. At some of these centres annual fairs are held, at which merchants from the neighbouring British Districts assemble and the hill people make their annual purchases.

Traffic is carried on chiefly by water; in the dry season, when the rivers are not navigable by boats of more than 2 tons burden, rafts and canoes are used. There are 105 miles of road, mainly in the neighbourhood of Agartalā; feeder-roads are now under construction to the stations on the Assam-Bengal Railway, which passes outside the western boundary of the State.

Administration.

The administration is conducted by the Minister at Agartalā, assisted by the *dīwān* and other subordinates. The laws are framed by a legislative council, and are modelled on the laws of British India. The State is divided into seven administrative divisions—Agartalā, Udaipur, Sonāmurā, Beloniā, Khowai, Dharmanagar, and Kailāshahar—each presided over by an officer ordinarily styled Magistrate-Collector, whose duties correspond to those of a District officer in British non-regulation Districts; he is subordinate to the Minister except in judicial matters. The chief judicial authority is vested in the *Khās* appellate court, which is presided over by three Judges and is similar in constitution to a Chief Court in British Provinces. Subordinate to the *Khās* appellate court is a court, presided over by a Judge, which hears all civil and criminal appeals from the divisional officers and tries Sessions cases. The officials are mainly natives of Bengal, many of them graduates of the Calcutta University; but certain offices are held exclusively by the Thākurs who are connected with the Rājā by marriage or otherwise. AGARTALĀ is the only municipality.

The State revenue increased from 2·4 lakhs in 1881–2 to 4·6 lakhs in 1892–3 and 8·17 lakhs in 1903–4, of which 2·32 lakhs was derived from land revenue. Duties are levied on exports, such as cotton, *til*, and forest products, bringing in 2·78 lakhs in 1903–4. The income derived from elephant-catching is decreasing, as these animals are becoming scarce.

The Rājā is the proprietor of the soil, and the land is held either direct by cultivators or under *tāluka* grants, which may be either perpetual or temporary. In the hills a family tax is realized from *jhūm* cultivators, and rents are paid only for lands in the plains; the rates vary from 12 annas to Rs. 9–8, the average being Rs. 3 per acre. The State is being cadastrally surveyed and settled.

A military force of 330 officers and men is maintained by the State. The force under the Superintendent of police numbers 8 inspectors, 26 *dārogas*, 33 *naib-dārogas*, 40 head constables, 49 writer constables, and 308 constables, posted at 22 police stations and 34 outposts. There is a jail at Agartalā and a lock-up at each of the divisional head-quarters; the average daily number of prisoners in 1903–4 was 47.

Education is very backward, and in 1901 only 2·3 per cent. of the population (4·1 males and 0·2 females) could read and write. The number of pupils under instruction increased from 619 in 1881 to 1,059 in 1892–3 and 1,704 in 1900–1, while 3,008 boys and 117 girls were at school in 1903–4. The number of educational institutions in that year was 103, including an Arts college, a secondary school, 99 primary schools, and 2 special schools. Of the primary schools, 88 are in the hills, and special scholarships have been founded for hill boys. An artisan school has recently been started, in which carpentry and brass and ironwork are taught. There are boarding-houses at the college and high school, where accommodation and medical aid are provided free of cost. A special boarding-house has also been established for the Thākur boys, and in connexion with it, a class has been opened for the training of such Thākurs as are willing to enter the civil service of the State; separate arrangements have also been made for the education of members of the ruling family. The expenditure on education in 1903–4 amounted to Rs. 70,000, which was entirely borne by the State, all education being free.

The State maintains ten charitable dispensaries, under the control and supervision of the State physician. The total number of out-patients in 1903–4 was 35,269, and of in-patients 657; 401 operations were performed. The expenditure was Rs. 26,500, entirely borne by the State. Vaccination is not compulsory, but is making progress, and 7,756 persons were vaccinated in 1903–4.

[Sir W. W. Hunter, *Statistical Account of Bengal*, vol. vi; Sir A. Mackenzie, *History of the Relations of the Government with the Hill Tribes of the North-East Frontier of Bengal* (Calcutta, 1884); Rev. James Long, 'Abstract of the Rājmāla,' *Journal of the Asiatic Society of Bengal* (1850), vol. xix, p. 533; J. G. Cumming, *Settlement Report of Chākla Roshnābād* (Calcutta, 1899).]

Hilsā.—Village in the Bihār subdivision of Patna District, Bengal,

situated in 25° 19′ N. and 85° 17′ E., 13 miles from the Fatwā station on the East Indian Railway, with which it is connected by road. Population (1901), 2,478. Hilsā is a large market, where a brisk trade in food-grains and oilseeds is carried on with Patna, Gayā, Hazāribāgh, and Palāmau.

Himālayas, The.—A system of stupendous mountain ranges, lying along the northern frontiers of the Indian Empire, and containing some of the highest peaks in the world. Literally, the name is equivalent to 'the abode of snow' (from the Sanskrit *hima*, 'frost,' and *ālaya*, 'dwelling-place'). To the early geographers the mountains were known as Imaus or Himaus and Hemodas; and there is reason to believe that these names were applied to the western and eastern parts respectively, the sources of the Ganges being taken as the dividing line. 'Hemodas' represents the Sanskrit *Himāvata* (Prākrit *Hemota*), meaning 'snowy.' The Greeks who accompanied Alexander styled the mountains the Indian Caucasus.

Modern writers have sometimes included in the system the Muztāgh range, and its extension the Karakoram; but it is now generally agreed that the Indus should be considered the north-western limit. From the great peak of Nanga Parbat in Kashmīr, the Himālayas stretch eastward for twenty degrees of longitude, in a curve which has been compared to the blade of a scimitar, the edge facing the plains of India. Barely one-third of this vast range of mountains is known with any degree of accuracy. The Indian Survey department is primarily engaged in supplying administrative needs; and although every effort is made in fulfilling this duty to collect information of purely scientific interest, much still remains to be done.

A brief abstract of our knowledge of the Himālayas may be given by shortly describing the political divisions of India which include them. On the extreme north-west, more than half of the State of KASHMĪR AND JAMMU lies in the Himālayas, and this portion has been described in some detail by Drew in *Jammu and Kashmīr Territories*, and by Sir W. Lawrence in *The Valley of Kashmīr*. The next section, appertaining to the Punjab and forming the British District of Kāngra and the group of feudatories known as the Simla Hill States, is better known. East of this lies the Kumaun Division of the United Provinces, attached to which is the Tehrī State. This portion has been surveyed in detail, owing to the requirements of the revenue administration, and is also familiar from the careful accounts of travellers. For 500 miles the State of Nepāl occupies the mountains, and is to the present day almost a *terra incognita*, owing to the acquiescence by the British Government in the policy of exclusion adopted by its rulers. Our knowledge of the topography of this portion of the Himālayas is limited to the information obtained during the operations of 1816, materials

collected by British officials resident at Kātmāndu, notably B. H. Hodgson, and the accounts of native explorers. The eastern border of Nepāl is formed by the State of Sikkim and the Bengal District of Darjeeling, which have been graphically described by Sir Joseph Hooker and more recently by Mr. Douglas Freshfield. A small wedge of Tibetan territory, known as the Chumbi Valley, separates Sikkim from Bhutān, which latter has seldom been visited by Europeans. East of Bhutān the Himālayas are inhabited by savage tribes, with whom no intercourse is possible except in the shape of punitive expeditions following raids on the plains. Thus a stretch of nearly 400 miles in the eastern portion of the range is imperfectly known.

In the western part of the Himālayas, which, as has been shown, has been more completely examined than elsewhere, the system may be divided into three portions. The central or main axis is the highest, which, starting at Nanga Parbat on the north-west, follows the general direction of the range. Though it contains numerous lofty peaks, including Nandā Devī, the highest mountain in British India, it is not a true watershed. North of it lies another range, here forming the boundary between India and Tibet, which shuts off the valley of the Indus, and thus may be described as a real water-parting. From the central axis, and usually from the peaks in it, spurs diverge, with a general south-easterly or south-westerly direction, but actually winding to a considerable extent. These spurs, which may be called the Outer Himālayas, cease with some abruptness at their southern extremities, so that the general elevation is 8,000 or 9,000 feet a few miles from the plains. Separated from the Outer Himālayas by elevated valleys or *duns* is a lower range known as the SIWĀLIKS, which is well marked between the Beās and the Ganges, reappears to the south of central Kumaun, and is believed to exist in Nepāl. Although the general character of the Himālayas in Nepāl is less accurately known, there is reason to suppose that it approximates to that of the western ranges.

Within the limits of this great mountain chain all varieties of scenery can be obtained, except the placid charm of level country. Luxuriant vegetation clothes the outer slopes, gradually giving place to more sombre forests. As higher elevations are reached, the very desolation of the landscape affects the imagination even more than the beautiful scenery left behind. It is not surprising that these massive peaks are venerated by the Hindus, and are intimately connected with their religion, as giving rise to some of the most sacred rivers, as well as on account of legendary associations. A recent writer has vividly described the impressions of a traveller through the foreground of a journey to the snows in Sikkim[1]:—

[1] D. W. Freshfield in *The Geographical Journal*, vol. xix, p. 453.

'He sees at one glance the shadowy valleys from which shining mist-columns rise at noon against a luminous sky, the forest ridges, stretching fold behind fold in softly undulating lines—dotted by the white specks which mark the situation of Buddhist monasteries—to the glacier-draped pinnacles and precipices of the snowy range. He passes from the zone of tree-ferns, bamboos, orange-groves, and *dal* forest, through an endless colonnade of tall-stemmed magnolias, oaks, and chestnut trees, fringed with delicate orchids and festooned by long convolvuluses, to the region of gigantic pines, junipers, firs, and larches. Down each ravine sparkles a brimming torrent, making the ferns and flowers nod as it dashes past them. Superb butterflies, black and blue, or flashes of rainbow colours that turn at pleasure into exact imitations of dead leaves, the fairies of this lavish transformation scene of Nature, sail in and out between the sunlight and the gloom. The mountaineer pushes on by a track half buried between the red twisted stems of tree-rhododendrons, hung with long waving lichens, till he emerges at last on open sky and the upper pastures—the Alps of the Himālaya—fields of flowers: of gentians and edelweiss and poppies, which blossom beneath the shining storehouses of snow that encompass the ice-mailed and fluted shoulders of the giants of the range. If there are mountains in the world which combine as many beauties as the Sikkim Himālayas, no traveller has as yet discovered and described them for us.'

The line of perpetual snow varies from 15,000 to 16,000 feet on the southern exposures. In winter, snow generally falls at elevations above 5,000 feet in the west, while falls at 2,500 feet were twice recorded in Kumaun during the last century. Glaciers extend below the region of perpetual snow, descending to 12,000 or 13,000 feet in Kulū and Lāhul, and even lower in Kumaun, while in Sikkim they are about 2,000 feet higher. On the vast store-house thus formed largely depends the prosperity of Northern India, for the great rivers which derive their water from the Himālayas have a perpetual supply which may diminish in years of drought, but cannot fail absolutely to feed the system of canals drawn from them.

While all five rivers from which the Punjab derives its name rise in the Himālayas, the Sutlej alone has its source beyond the northern range, near the head-waters of the Indus and Tsan-po. In the next section are found the sources of the Jumna, Ganges, and Kālī or Sārdā high up in the central snowy range, while the Kauriāla or Karnāli, known lower down in its course as the Gogra, rises in Tibet, beyond the northern watershed. The chief rivers of Nepāl, the Gandak and Kosi, each with seven main affluents, have their birth in the Himālayas, which here supply a number of smaller streams merging in the larger rivers soon after they reach the plains. Little is known of the upper courses of the northern tributaries of the Brahmaputra in Assam; but it seems probable that the Dihāng, which has been taken as the eastern

boundary of the Himālayas, is the channel connecting the Tsan-po and the Brahmaputra.

Passing from east to west the principal peaks are Nanga Parbat (26,182 feet) in Kashmīr; a peak in Spiti (Kāngra District) exceeding 23,000, besides three over 20,000; Nandā Devī (25,661), Trisūl (23,382), Pānch Chūlhī (22,673), and Nandā Kot (22,538) in the United Provinces; Mount Everest (29,002), Devālagiri (26,826), Gosainthān (26,305) and Kinchinjunga (28,146), with several smaller peaks, in Nepāl; and Dongkya (23,190), with a few rising above 20,000, in Sikkim.

The most considerable stretch of level ground is the beautiful Kashmīr Valley, through which flows the Jhelum. In length about 84 miles, it has a breadth varying from 20 to 25 miles. Elsewhere steep ridges and comparatively narrow gorges are the rule, the chief exception being the Valley of Nepāl, which is an undulating plain about 20 miles from north to south, and 12 to 14 miles in width. Near the city of Srīnagar is the Dal Lake, described as one of the most picturesque in the world. Though measuring only 4 miles by 2½, its situation among the mountains, and the natural beauty of its banks, combined with the endeavours of the Mughal emperors to embellish it, unite to form a scene of great attractions. Some miles away is the larger expanse of water known as the Wular Lake, which ordinarily covers 12½ square miles, but in years of flood expands to over 100. A number of smaller lakes, some of considerable beauty, are situated in the outer ranges in Naini Tāl District. In 1903 the GOHNĀ Lake, in Garhwāl District, was formed by the subsidence of a steep hill, rising 4,000 feet above the level of a stream which it blocked.

[1]The geological features of the Himālayas can be conveniently grouped into three classes, roughly corresponding to the three main orographical zones: (1) the Tibetan highland zone, (2) the zone of snowy peaks and Outer Himālayas, and (3) the Sub-Himālayas.

In the Tibetan highlands there is a fine display of marine fossiliferous rocks, ranging in age from Lower Palaeozoic to Tertiary. In the zone of the snowy peaks granites and crystalline schists are displayed, fringed by a mantle of unfossiliferous rocks of old, but generally unknown, age, forming the lower hills or Outer Himālayas, while in the Sub-Himālayas the rocks are practically all of Tertiary age, and are derived from the waste of the highlands to the north.

The disposition of these rocks indicates the existence of a range of some sort since lower palaeozoic times, and shows that the present southern boundary of the marine strata on the northern side of the crystalline axis is not far from the original shore of the ocean in which these strata were laid down. The older unfossiliferous rocks of the

[1] By T. H. Holland, Geological Survey of India.

Lower Himālayas on the southern side of the main crystalline axis are more nearly in agreement with the rocks which have been preserved without disturbance in the Indian Peninsula; and even remains of the great Gondwāna river-formations which include our valuable deposits of coal are found in the Darjeeling area, involved in the folding movements which in later geological times raised the Himālayas to be the greatest among the mountain ranges of the world. The Himālayas were thus marked out in very early times, but the main folding took place in the Tertiary era. The great outflow of the Deccan trap was followed by a depression of the area to the north and west, the sea in eocene times spreading itself over Rājputāna and the Indus valley, covering the Punjab to the foot of the Outer Himālayas as far east as the Ganges, at the same time invading on the east the area now occupied by Assam. Then followed a rise of the land and consequent retreat of the sea, the fresh-water deposits which covered the eocene marine strata being involved in the movement as fast as they were formed, until the Sub-Himālayan zone river-deposits, no older than the pliocene, became tilted up and even overturned in the great foldings of the strata. This final rise of the Himālayan range in late Tertiary times was accompanied by the movements which gave rise to the Arakan Yoma and the Nāgā Hills on the east, and the hills of Baluchistān and Afghānistān on the west.

The rise of the Himālayan range may be regarded as a great buckle in the earth's crust, which raised the great Central Asian plateau in late Tertiary times, folding over in the Baikal region on the north against the solid mass of Siberia, and curling over as a great wave on the south against the firmly resisting mass of the Indian Peninsula.

As an index to the magnitude of this movement within the Tertiary era, we find the marine fossil foraminifer, *Nummulites*, which lived in eocene times in the ocean, now at elevations of 20,000 feet above sea-level in Zāskār. With the rise of the Himālayan belt, there occurred a depression at its southern foot, into which the alluvial material brought down from the hills has been dropped by the rivers. In miocene times, when presumably the Himālayas did not possess their present elevation, the rivers deposited fine sands and clays in this area; and as the elevatory process went on, these deposits became tilted up, while the rivers, attaining greater velocity with their increased gradient, brought down coarser material and formed conglomerates in pliocene times. These also became elevated and cut into by their own rivers, which are still working along their old courses, bringing down boulders to be deposited at the foot of the hills and carrying out the finer material farther over the Indo-Gangetic plain.

The series of rocks which have thus been formed by the rivers, and afterwards raised to form the Sub-Himālayas, are known as the Siwālik

series. They are divisible into three stages. In the lowest and oldest, distinguished as the Nāhan stage, the rocks are fine sandstones and red clays without any pebbles. In the middle stage, strings of pebbles are found with the sandstones, and these become more abundant towards the top, until we reach the conglomerates of the upper stage. Along the whole length of the Himālayas these Siwālik rocks are cut off from the older rock systems of the higher hills by a great reversed fault, which started in early Siwālik times and developed as the folding movements raised the mountains and involved in its rise the deposits formed along the foot of the range. The Siwālik strata never extended north of this great boundary fault, but the continued rise of the mountains affected these deposits, and raised them up to form the outermost zone of hills.

The upper stage of the Siwālik series is famous on account of the rich collection of fossil vertebrates which it contains. Among these there are forms related to the miocene mammals of Europe, some of which, like the hippopotamus, are now unknown in India but have relatives in Africa. Many of the mammals now characteristic of India were represented by individuals of much greater size and variety of species in Siwālik times.

The unfossiliferous rocks which form the Outer Himālayas are of unknown age, and may possibly belong in part to the unfossiliferous rocks of the Peninsula, like the Vindhyans and the Cuddapahs. Conspicuous among these rocks are the dolomitic limestones of Jaunsār and Kumaun, the probable equivalents of the similar rocks far away to the east at Buxa in the Duārs. With these a series of purple quartzites and basic lava-flow is often associated. In the Simla area the unfossiliferous rocks have been traced out with considerable detail; and it has been shown that quartzites, like those of Jaunsār and Kumaun, are overlaid by a system of rocks which has been referred to the carbonaceous system on account of the black carbonaceous slates which it includes. The only example known of pre-Tertiary fossiliferous rocks south of the snowy range in the Himālayas occurs in south-west Garhwāl, where there are a few fragmentary remains of mesozoic fossils of marine origin.

The granite rocks, which form the core of the snowy range and in places occur also in the Lower Himālayas, are igneous rocks which may have been intruded at different periods in the history of the range. They are fringed with crystalline schists, in which a progressive metamorphism is shown from the edge of granitic rock outwards, and in the inner zone the granitic material and the pre-existing sedimentary rock have become so intimately mixed that a typical banded gneiss is produced. The resemblance of these gneisses to the well-known gneisses of Archaean age in the Peninsula and in other parts of the

world led earlier observers to suppose that the gneissose rocks of the Central Himālayas formed an Archaean core, against which the sediments were subsequently laid down. But as we now know for certain that both granites, such as we have in the Himālayas, and banded gneisses may be much younger, even Tertiary in age, the mere composition and structure give no clue to the age of the crystalline axis. The position of the granite rock is probably dependent on the development of low-pressure areas during the process of folding, and there is thus a prima facie reason for supposing that much of the igneous material became injected during the Tertiary period. With the younger intrusions, however, there are probably remains of injections which occurred during the more ancient movements, and there may even be traces of the very ancient Archaean gneisses; for we know that pebbles of gneisses occur in the Cambrian conglomerates of the Tibetan zone, and these imply the existence of gneissose rocks exposed to the atmosphere in neighbouring highlands. The gneissose granite of the Central Himālayas must have consolidated under great pressure, with a thick superincumbent envelope of sedimentary strata; and their exposure to the atmosphere thus implies a long period of effectual erosion by weathering agents, which have cut down the softer sediments more easily and left the more resisting masses of crystalline rocks to form the highest peaks in the range. Excellent illustrations of the relationship of the gneissose granites to the rocks into which they have been intruded are displayed in the Dhaola Dhār in Kulū, in the Chor Peak in Garhwāl, and in the Darjeeling region east of Nepāl.

Beyond the snowy range in the Tibetan zone we have a remarkable display of fossiliferous rocks, which alone would have been enough to make the Himālayas famous in the geological world. The boundary between Tibetan territory and Spiti and Kumaun has been the area most exhaustively studied by the Geological Survey. The rocks exposed in this zone include deposits which range in age from Cambrian to Tertiary. The oldest fossiliferous system, distinguished as the Haimanta ('snow-covered') system, includes some 3,000 feet of the usual sedimentary types, with fragmentary fossils which indicate Cambrian and Silurian affinities. Above this system there are representatives of the Devonian and Carboniferous of Europe, followed by a conglomerate which marks a great stratigraphical break at the beginning of Permian times in Northern India. Above the conglomerate comes one of the most remarkably complete succession of sediments known, ranging from Permian, without a sign of disturbance in the process of sedimentation, throughout the whole Mesozoic epoch to the beginning of Tertiary times. The highly fossiliferous character of some of the formations in this great pile of strata, like the *Productus* shales and the Spiti shales, has made this area classic ground to the palaeontologist.

The Eurasian ocean distinguished by the name 'Thetys,' which spread over this area throughout the Palaeozoic and Mesozoic times, became driven back by the physical revolution which began early in Tertiary times, when the folding movements gave rise to the modern Himālayas. As relics of this ocean have been discovered in Burma and China it will not be surprising to find, when the ground has been more thoroughly explored, that highly fossiliferous rocks are preserved also in the Tibetan zone beyond the snowy ranges of Nepal and Sikkim.

Of the minerals of value, graphite has been recorded in the Kumaun Division; coal occurs frequently amongst the Nummulitic (eocene) rocks of the foot-hills and the Gondwāna strata of Darjeeling District; bitumen has been found in small quantities in Kumaun; stibnite, a sulphide of antimony, occurs associated with ores of zinc and lead in well-defined lodes in Lāhul; gold is obtained in most of the rivers, and affords a small and precarious living for a few washers; copper occurs very widely disseminated and sometimes forms distinct lodes of value in the slaty series south of the snowy range, as in the Kulū, Kumaun, and Darjeeling areas; ferruginous schists sometimes rich in iron occur under similar geological conditions, as in Kāngra and Kumaun; sapphires of considerable value have been obtained in Zāskār and turquoise from the central highlands; salt is being mined in quantity from near the boundary of the Tertiary and older rocks in the State of Mandi; borax and salt are obtained from lakes beyond the Tibetan border; slate-quarrying is a flourishing industry along the southern slopes of the Dhaola Dhār in Kāngra District; mica of poor quality is extracted from the pegmatites of Kulū; and a few other minerals of little value, besides building stones, are obtained in various places. A small trade is developed, too, by selling the fossils from the Spiti shales as sacred objects.

The general features of the great variety in vegetation have been illustrated in the quotation from Mr. Freshfield's description of Sikkim. These variations are naturally due to an increase in elevation, and to the decrease in rainfall and humidity passing from south to north, and from east to west. The tropical zone of dense forest extends up to about 6,500 feet in the east, and 5,000 feet in the west. In the Eastern Himālayas orchids are numerically the predominant order of flowering plants; while in Kumaun about 62 species, both epiphytic and terrestrial, have been found. A temperate zone succeeds, ranging to about 12,000 feet, in which oaks, pines, and tree-rhododendrons are conspicuous, with chestnut, maple, magnolia, and laurel in the east. Where rain and mist are not excessive, as for example in Kulū and Kumaun, European fruit trees (apples, pears, apricots, and peaches) have been naturalized very successfully, and an important crop of potatoes is obtained in the west. Above about 12,000 feet the forests

become thinner. Birch and willow mixed with dwarf rhododendrons continue for a time, till the open pasture land is reached, which is richly adorned in the summer months with brilliant Alpine species of flowers. Contrasting the western with the eastern section we find that the former is far less rich, though it has been better explored, while there is a preponderance of European species. A fuller account of the botanical features of the Himālayas will be found in Vol. I, chap. iv.

To obtain a general idea of the fauna of the Himālayas it is sufficient to consider the whole system as divided into two tracts: namely, the area in the lower hills where forests can flourish, and the area above the forests. The main characteristics of these tracts have been summarized by the late Dr. W. T. Blanford[1]. In the forest area the fauna differs markedly from that of the Indian Peninsula stretching away from the base of the hills. It does not contain the so-called Aryan element of mammals, birds, and reptiles which are related to Ethiopian and Holarctic genera, and to the pliocene Siwālik fauna, nor does it include the Dravidian element of reptiles and batrachians. On the other hand, it includes the following animals which do not occur in the Peninsula—Mammals: the families Simiidae, Procyonidae, Talpidae, and Spalacidae, and the sub-family Gymnurinae, besides numerous genera, such as *Prionodon*, *Helictis*, *Arctonyx*, *Atherura*, *Nemorhaedus*, and *Cemas*. Birds: the families Eurylaemidae, Indicatoridae, and Heliornithidae, and the sub-family Paradoxornithinae. Reptiles: Platysternidae and Anguidae. Batrachians: Dyscophidae, Hylidae, Pelobatidae, and Salamandridae. Compared with the Peninsula, the fauna of the forest area is poor in reptiles and batrachians.

'It also contains but few peculiar genera of mammals and birds, and almost all the peculiar types that do occur have Holarctic affinities. The Oriental element in the fauna is very richly represented in the Eastern Himālayas and gradually diminishes to the westward, until in Kashmīr and farther west it ceases to be the principal constituent. These facts are consistent with the theory that the Oriental constituent of the Himālayan fauna, or the greater portion of it, has migrated into the mountains from the eastward at a comparatively recent period. It is an important fact that this migration appears to have been from Assam and not from the Peninsula of India.'

Dr. Blanford suggested that the explanation was to be found in the conditions of the glacial epoch. When the spread of snow and ice took place, the tropical fauna, which may at that time have resembled more closely that of the Peninsula, was forced to retreat to the base of the mountains or perished. At such a time the refuge afforded by the Assam Valley and the hill ranges south of it, with their damp,

[1] 'The Distribution of Vertebrate Animals in India, Ceylon, and Burma,' *Proceedings, Royal Society*, vol. lxvii, p. 484.

sheltered, forest-clad valleys, would be more secure than the open plains of Northern India and the drier hills of the country south of these. As the cold epoch passed away, the Oriental fauna re-entered the Himālayas from the east.

Above the forests the Himālayas belong to the Tibetan sub-region of the Holarctic region, and the fauna differs from that of the Indo-Malay region, 44 per cent. of the genera recorded from the Tibetan tract not being found in the Indo-Malay region. During the glacial epoch the Holarctic forms apparently survived in great numbers.

Owing to the rugged nature of the country, which makes travelling difficult and does not invite immigrants, the inhabitants of the Himālayas present a variety of ethnical types which can hardly be summarized briefly. Two common features extending over a large area may be referred to. From Ladākh in Kashmīr to Bhutān are found races of Indo-Chinese type, speaking dialects akin to Tibetan and professing Buddhism. In the west these features are confined to the higher ranges; but in Sikkim, Darjeeling, and Bhutān they are found much nearer the plains of India. Excluding Burma, this tract of the Himālayas is the only portion of India in which Buddhism is a living religion. As in Tibet, it is largely tinged by the older animistic beliefs of the people. Although the Muhammadans made various determined efforts to conquer the hills, they were generally unsuccessful, yielding rather to the difficulties of transport and climate than to the forces brought against them by the scanty though brave population of the hills. In the twelfth century a Tartar horde invaded Kashmīr, but succumbed to the rigours of the snowy passes. Subsequently a Tibetan soldier of fortune seized the supreme power and embraced Islām. Late in the fourteenth century the Muhammadan ruler of the country, Sultān Sikandar, pressed his religion by force on the people, and in the province of Kashmīr proper 94 per cent. of the total are now Muhammadans. Baltistān is also inhabited chiefly by Muhammadans, but the proportion is much less in Jammu, and beyond the Kashmīr State Islām has few followers. Hinduism becomes an important religion in Jammu, and is predominant in the southern portions of the Himālayas within the Punjab and the United Provinces. It is the religion of the ruling dynasty in Nepāl, where, however, Buddhism is of almost equal strength. East of Nepāl Hindus are few. Where Hinduism prevails, the language in common use, known as Pahārī, presents a strong likeness to the languages of Rājputāna, thus confirming the traditions of the higher classes that their ancestors migrated from the plains of India. In Nepāl the languages spoken are more varied, and Newārı, the ancient state language, is akin to Tibetan. The Mongolian element in the population is strongly marked in the east, but towards the west has been pushed back into

the higher portion of the ranges. In Kumaun are found a few shy people living in the recesses of the jungles, and having little intercourse with their more civilized neighbours. Tribes which appear to be akin to these are found in Nepāl, but little is known about them. North of Assam the people are of Tibeto-Burman origin, and are styled, passing from west to east, the Akās, Daflās, Mīris, and Abors, the last name signifying 'unknown savages.' Colonel Dalton has described these people in his *Ethnology of Bengal*.

From the commercial point of view the agricultural products of the Himālayas, with few exceptions, are of little importance. The chief food-grains cultivated are, in the outer ranges, rice, wheat, barley, *maruā*, and amaranth. In the hot, moist valleys, chillies, turmeric, and ginger are grown. At higher levels potatoes have become an important crop in Kumaun; and, as already mentioned, in Kulū and Kumaun European fruits have been successfully naturalized, including apples, pears, cherries, and strawberries. Two crops are obtained in the lower hills; but cultivation is attended by enormous difficulties, owing to the necessity of terracing and clearing land of stones, while irrigation is practicable only by long channels winding along the hill-sides from the nearest suitable stream or spring. As the snowy ranges are approached wheat and buckwheat, grown during the summer months, are the principal crops, and only one harvest in the year can be obtained. Tea gardens were successfully established in Kumaun during the first half of the nineteenth century, but the most important gardens are now situated in Kāngrā and Darjeeling. In the latter District cinchona is grown for the manufacture of quinine and cinchona febrifuge.

The most valuable forests are found in the Outer Himālayas, yielding a number of timber trees, among which may be mentioned *sāl*, *shīsham* (*Dalbergia Sissoo*), and *tūn* (*Cedrela toona*). Higher up are found the *deodār* and various kinds of pine, which are also extracted wherever means of transport can be devised. In the Eastern Himālayas wild rubber is collected by the hill tribes already mentioned, and brought for sale to the Districts of the Assam Valley.

Communications within the hills are naturally difficult. Railways have hitherto been constructed only to three places in the outer hills: Jammu in the Kashmīr State, Simla in the Punjab, and Darjeeling in Bengal. Owing to the steepness of the hill-sides and the instability of the strata composing them, these lines have been costly to build and maintain. A more ambitious project is now being carried out to connect the Kashmīr Valley with the plains, motive power being supplied by electricity to be generated by the Jhelum river. The principal road practicable for wheeled traffic is also in Kashmīr, leading from Rāwalpindi in the plains through Murree and Bāramūla

to Srīnagar. Other cart-roads have been made connecting with the plains the hill stations of Dharmsāla, Simla, Chakrāta, Mussoorie, Dalhousie, Nainī Tāl, and Rānīkhet. In the interior the roads are merely bridle-paths. The great rivers flowing in deep gorges are crossed by suspension bridges made of the rudest materials. The sides consist of canes and twisted fibres, and the footway may be a single bamboo laid on horizontal canes supported by ropes attached to the sides. These frail constructions, oscillating from side to side under the tread of the traveller, are crossed with perfect confidence by the natives, even when bearing heavy loads. On the more frequented paths, such as the pilgrim road from Hardwār up the valley of the Ganges to the holy shrines of Badrināth and Kedārnāth, more substantial bridges have been constructed by Government, and the roads are regularly repaired. Sheep and, in the higher tracts, yaks and crosses between the yak and ordinary cattle are used as beasts of burden. The trade with Tibet is carried over lofty passes, the difficulties of which have not yet been ameliorated by engineers. Among these the following may be mentioned: the Kangwa La (15,500 feet) on the Hindustān-Tibet road through Simla; the Mānā (18,000), Nitī (16,570), and Balcha Dhurā in Garhwāl; the Anta Dhurā (17,270), Lampiya Dhurā (18,000), and Lipū Lekh (16,750) in Almorā; and the Jelep La (14,390) in Sikkim.

[More detailed information about the various portions of the Himālāyas will be found in the articles on the political divisions referred to above. An admirable summary of the orography of the Himālayas is contained in Lieut.-Col. H. H. Godwin-Austen's presidential address to the Geographical Section of the British Association in 1883 (*Proceedings, Royal Geographical Society*, 1883, p. 610; and 1884, pp. 83 and 112, with a map). Fuller accounts of the botany, geology, and fauna are given in E. F. Atkinson's *Gazetteer of the Himālayan Districts in the North-Western* [United] *Provinces*, 3 vols. (1882–6). See also General Strachey's 'Narrative of a Journey to Mānasarowar,' *Geographical Journal*, vol. xv, p. 150. More recent works are the *Kāngra District Gazetteer* (Lahore, 1899); C. A. Sherring, *Western Tibet and the British Borderland* (1906); and D. W. Freshfield, *Round Kangchenjunga* (1903), which contains a full bibliography for the Eastern Himālayas. An account of the Himālayas by officers of the Survey of India and the Geological department is under preparation.]

Hindan (also called Chhaja in its upper course).—A river of the United Provinces, rising in the southern slopes of the Siwāliks in Sahāranpur District (30° 7′ N., 77° 47′ E.), and draining the central portions of Sahāranpur, Muzaffarnagar, and Meerut. It flows generally towards the south-west, and falls into the JUMNA after a course of

160 miles, a few miles after entering the north-western corner of Bulandshahr. The KĀLĪ NADĪ (WEST) is the chief tributary. Its water is nowhere used for irrigation, but part of its channel forms an important link between the Ganges and Jumna. Thus water can be passed into the Hindan from the UPPER GANGES CANAL, and thence, by means of a cut made from a point close to Ghāziābād in 1877, into the Jumna above Okhla, increasing the supply of water for the AGRA CANAL. This cut was made wider in 1884 and further improved in 1901, and is now navigable.

Hindaun.—Head-quarters of the *nizāmat* and *tahsīl* of the same name in the State of Jaipur, Rājputāna, situated in 26° 44′ N. and 77° 3′ E., about 75 miles east by south-east of Jaipur city. It is connected by metalled road with Hindaun Road (also called Mandāwar), a station on the Rājputāna-Mālwā Railway, 32 miles to the north, and with Karauli town, about 16 miles to the south. Population (1901), 11,938. Hindaun was once an extensive city, but it suffered from the devastations of the Marāthās, and the rampart which once surrounded it is now in ruins. It is, however, the principal mart for the cotton, grain, oilseeds, and opium grown in this part of the State, and the road above mentioned is an important trade route. A fair, in honour of Mahābīr, whose temple is said to be very old, is held yearly in April, attended chiefly by Jāts and Mīnās. The iron mines at Karwar, a few miles to the east, have long been abandoned; but a good deal of red and white sandstone is quarried in the neighbourhood, and used for building and other purposes. At Mandāwar is a State cotton-press, which during the year 1904 yielded a net profit of Rs. 7,200, or about 6 per cent. on the capital cost. The town of Hindaun possesses a post office, 6 schools attended by about 230 pupils, and a hospital with accommodation for 4 in-patients.

Hindol.—One of the Tributary States of Orissa, Bengal, lying between 20° 29′ and 20° 49′ N. and 85° 6′ and 85° 30′ E., with an area of 312 square miles. It is bounded on the north and east by the State of Dhenkānāl; on the south by Barāmbā and Narsinghpur; and on the west by Angul District. Hindol consisted originally of three or four petty States completely buried in jungle, till two brothers, belonging to the family of the Kimedi Rājā in Madras, drove out the old chiefs and formed their territories into one principality. The State has an estimated revenue of Rs. 70,000, and pays tribute of Rs. 551 to the British Government. The population increased from 37,973 in 1891 to 47,180 in 1901, part of the growth being due to an accession of new settlers. The number of villages is 234, one of which, Hindol, is the residence of the chief; the density is 151 persons per square mile. Of the total population, all but 200 are Hindus. The most numerous castes are Chāsas (11,000) and Pāns

(7,000). The old Cuttack-Sambalpur high road runs through the State in a south-easterly direction, and small quantities of country produce are thus brought to the Mahānadī and there sold to travelling merchants. A branch road, 7½ miles in length, connects the main road with the village containing the Rājā's residence. Excellent oranges are grown in the Rājā's gardens, and the soil generally appears to be well suited for the cultivation of this valuable fruit. The State maintains one middle English school, 3 upper primary, and 57 lower primary schools, and a charitable dispensary.

Hindoli.—Head-quarters of the *tahsīl* of the same name in the State of Būndi, Rājputāna, situated in 25° 35′ N. and 75° 30′ E., about 15 miles north-west of Būndi town. Population (1901), 2,162. The village is picturesquely situated at the base of some low hills, on one of which stands a palace built by Pratāp Singh, a member of the ruling family, in the middle of the seventeenth century. To the north of the village lies an artificial lake, about one square mile in area, called the Rām Sāgar after a Mahājan named Rāma Sāh, who is said to have constructed its embankment about 500 years ago. At the north-eastern extremity of the dam is a group of handsome cenotaphs, all of the seventeenth century.

Hindostān. *See* HINDUSTĀN.

Hindubāgh.—*Tahsīl* of the Upper Zhob subdivision of the Zhob District, Baluchistān, lying between 30° 36′ and 31° 50′ N. and 67° 27′ and 68° 46′ E. It is bounded on the north by the Toba-Kākar range, which separates it from Afghānistān. Its area is 3,275 square miles, and population (1901) 15,777. The land revenue, including grazing tax, amounted in 1903-4 to Rs. 24,000. The head-quarters station, which bears the same name as the *tahsīl*, lies in the south-west corner. The *tahsīl* possesses 76 villages. The main valley, called Zhob *nāwah* from its boat-like shape, lies along the upper course of the Zhob river, while the northern part covers the grassy uplands of Kākar Khorāsān. The greater part of the cultivation is irrigated; rains crops are comparatively insignificant. Under the Kand mountain lies the picturesque glen of Kamchughai. Asbestos deposits exist in the valley.

Hindu Kush (Mountains of the Moon).—This great range, known to the ancient geographers as the 'Indian Caucasus,' may be said to start from a point near 37° N. and 74° 38′ E., where the Himālayan system finds its north-western termination in a mass of towering peaks, and to extend south-westwards across North-Eastern Afghānistān to about 34° 30′ N. and 68° 15′ E. The first spur which it throws off to the north is from the vicinity of Tirich Mīr, in the north-western corner of Chitrāl. Starting in a westerly direction, this spur takes a northward curve and then again runs westward, dividing the Oxus from the

Kokcha: this may be termed the Badakhshān ridge. To the east of the Khāwak pass, another spur runs north, and then sprays out north-east and north-west, separating the Kokcha drainage from that of the Kundūz: this may be called the Kokcha ridge. From the Khāwak pass a branch goes north-west towards Kundūz or Kataghān, where it ends, forming the Kundūz ridge. There is another spur, running almost parallel with this, which may be called the Khāwak ridge. A fifth spur is the Koh-i-Changūr, which divides the Kundūz (or Surkhāb) from the Tashkurghān river. West of the Dorāh pass a region of spurs is thrown out to the south, which form the Kāfiristān watersheds; and west again of these a great spur divides Panjshīr from Kāfiristān.

The general elevation of the Hindu Kush from its eastern extremity to the Khāwak may be taken as between 14,500 and 18,000 feet, while there are numerous peaks of between 20,000 and 25,000 feet. The range is everywhere jagged, precipitous, and arid: it is destitute of trees, and there is but little grass or herbage. Above 15,000 feet snow is perpetual. A more inhospitable region it is difficult to imagine, but the scenery is often sublime.

No table-lands like those of Tibet support the northern sides of the Hindu Kush, which sinks abruptly into the low plains of Turkistān. Until recently, information about the Hindu Kush, and the entire mountain system of which it forms a part, has been extremely defective. But the inaccurate narratives of Moorcroft, Vigne, and others have been amplified, corrected, and partly superseded by the investigation of Sir Douglas Forsyth's mission of 1873, and by the still more recent Russo-Afghān Boundary Commission in 1884-6 and Sir William Lockhart's mission in 1885. In the eastern Hindu Kush region political relations with the tribes have been established on a firm basis, and the country right up to Kāfiristān is no longer a *terra incognita*. Some of the valleys of Kāfiristān also have been visited by Sir George Robertson. The term 'Hindu Kush' was said by Sir A. Burnes to be unknown to the Afghāns; but it is admitted by the same writer that there is a particular peak, and also a pass, bearing the name.

[1] A systematic survey of the rocks of the Hindu Kush has never been made; but isolated observations at different times show that intrusive granitic and accompanying basic igneous rocks, resembling those of the crystalline axis of the Himālayas, are associated with schists, quartzites, slates, and limestones of the kind better known in the regions of Kashmīr, Bāltistān, &c. The limestones of Chitrāl are of unusual importance, on account of their including fossils which show their age to be Devonian. The association of this limestone with a purple sandstone and a boulder-bed is very similar to that which is known as the

[1] Contributed by Mr. T. H. Holland, Director, Geological Survey of India.

infra-trias series in parts of the North-Western Himālayas; and as these rocks appear to be unfossiliferous, the Chitrāl fossils afford an index, by analogy, to their age also. Owing to the way in which the limestones of the Hindu Kush have been altered by igneous intrusions, it is impossible to say what systems are represented; but, besides the Devonian of Chitrāl on the southern and south-eastern slopes, it is probable that the Permian and younger rocks known in Afghān territory extended into the range, and became folded and altered by the granitic intrusions which Griesbach[1] regarded as mainly Cretaceous in age. The folding system has a general west-south-west, east-north-east trend.

As usual with areas of this kind in the Himālayan region, where igneous rocks of various kinds are found intruded into pre-existing sediments, small quantities of gold are obtained in the rivers which cut through and sift the minerals obtained by the action of the weather on the metamorphosed area.

The fauna and flora of the Eastern Hindu Kush are similar to those of the Himālayas lying within the same latitudes. In this region are found the wild goat, the snow ounce, and the wild dog, this last being sometimes met with in packs. Among the snow and ice, the ibex, the red bear, and the snow-cock share a rarely broken solitude. Wild sheep are numerous below the glacial region.

The inhabitants of the Hindu Kush are of mixed races, languages, and religions, and possess different political and domestic institutions. The valleys and gorges, many of them extremely fertile, contain the great majority of the inhabitants, but some of the cave-dwellings of the mountaineers called forth the admiration of Marco Polo. The eastern valley communities average from 200 to 4,000 people, who maintain an attitude of independence towards their neighbours. Many centuries have passed since the original inhabitants of the central and western mountains were either converted to Muhammadanism and absorbed by their conquerors, or were driven out and forced to flee to less accessible valleys. The Sāfis, who now dwell in the mountains north of Jalālābād, are probably allied by descent to their eastern neighbours in Kāfiristan. In the Northern Hindu Kush the Tājiks are probably descended from an old Irānian stock who were the original occupants of that region. The Badakhshis of the hills are Shiahs, while those of the plain country are principally Sunnis. Traces of fire-worship have been found in a few places. In Wākhān, and in Hunza, Yāsīn, and the adjacent valleys, there is a distinct sect, called Mughlis or Maulais, who are connected by Sir H. Yule with the mediaeval 'Assassins,' and with the Druses of the Lebanon. What their origin or beliefs are, it is

[1] C. L. Griesbach, 'Field Notes from Afghanistan.' *Records. Geological Survey of India*, vol. xx. parts i and ii.

difficult to discover. They hold 'that a man should conceal his faith and his women,' but they are known to believe in the transmigration of souls. It is also known that they pay tithes to the Agha Khān of Bombay as their spiritual leader. They hold Sunni and Shiah Muhammadans in equal contempt: the Sunni is a dog and the Shiah an ass. They revere the *Kalām-i-Pīr*, a Persian work shown only to men of the Maulai faith, instead of the Korān. They drink wine, and their spiritual guides do not profess celibacy. The Persian account of the sect is, that it was founded in 1496 by Mīr Sham-ud-dīn, who in that year came to Kashmīr out of Irāk, and whose followers took the name of Nūr Bakhsh ('*illuminati*'). The Mughli or Nūr Bakhsh tenets are also prevalent in Bāltistān.

In the Eastern Hindu Kush the people may be divided into four distinct castes or classes: namely, Ronos, Shīns, Yashkūns, and the low castes, such as Doms, Kramins, Shoto, &c. The terms Dārd and Dārdistān have been applied by Dr. Leitner to several of the tribes and the valleys they inhabit. The latter term is merely a convenient expression embracing a large tract of country inhabited by cognate races. It applies to all the country lying between Kāfiristān on the west and Kashmīr and Kāgān on the east. The religion of all at the present time is an easy-going species of Muhammadanism, said to have been introduced in the course of the fourteenth century, and particularly noticed by Marco Polo. That the former religion of the western portion of this region was a form of Hinduism, and not of Buddhism, there can be little doubt. The preservation of a caste system, and the sanctity of the cow among the Shīns, point to this conclusion, while no traditional reverence survives for the Buddhist remains still to be found in the country. In spite of the general conversion of the tribes to Islām, archaic semi-religious festivals, mostly connected with agriculture, are still observed in many parts, more or less in accordance with ancient customs. The mountain villages where Shīns are in the majority retain a trace of former idolatry in the sacred stones set up, in one form or another, in almost every hamlet. An oath sworn over such a stone is held to be absolutely binding. In disposition the people are tractable, good-tempered, fond of rejoicing and merry-making, neither cruel nor quarrelsome, and they submit readily to constituted authority. Hawking, dancing, and polo are universal amusements, but polo is rarely played north of the Hindu Kush. Polygamy and concubinage are practised by all who can afford it, and the right of divorce is somewhat freely exercised. Infidelity is extremely common, and the men show none of the jealousy of their wives usual in Muhammadan communities. Apparently morality was still more lax formerly than it is now. Islām has not yet brought about the seclusion of women, who mix freely with men on all occasions.

Hindupur Tāluk.—Southern *tāluk* of Anantapur District, Madras, lying between 13° 41′ and 14° 8′ N. and 77° 24′ and 77° 55′ E., with an area of 426 square miles. The population in 1901 was 92,088, compared with 80,486 in 1891. There are 74 villages and one town, HINDUPUR (population, 19,575), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 1,92,000. On the east and through the centre run two lines of hills, north and south. Between them is a series of undulating uplands. Both the Penner and Chitrāvati rivers traverse the *tāluk* in the same direction, but neither is much utilized for irrigation. Hindupur, however, receives more rain than its northern neighbours, has a better soil and a considerable number of rain-fed tanks; it is consequently richer, less sparsely peopled, and increasing in population more rapidly than they are.

Hindupur Town.—Head-quarters of the *tāluk* of the same name in Anantapur District, Madras, situated in 13° 49′ N. and 77° 29′ E., close to the Penner, and on the branch of the Southern Mahratta Railway which runs from Guntakal to Bangalōre, 70 miles south of Anantapur town. Population (1901), 19,575. Hindupur is the largest town in the District and the centre of the commerce of its southern portion. Tradition says that it was founded by Morāri Rao and called after his father, whose title was Hindu Rao. It does a large and increasing trade in jaggery (coarse sugar), piece-goods, and grain, mostly with Bangalore. Hand weaving of gunny sacking, common cloth, and blankets is also carried on. Latterly fears of plague have done much to deter traders from visiting it, and its commerce has fallen off.

Hindūr.—One of the Simla Hill States, Punjab. *See* NALĀGARH.

Hindustān.—A vaguely-defined area, sometimes applied to the whole of India north of the Vindhyas, in contradistinction to the Deccan (*Dakshin*, 'south'), which lies south of them. Hindustān, in this sense, is bounded on the north by the Himālayas, on the east by Assam, on the south by the Vindhyas, and on the west extends into the Punjab and Rājputāna. It accordingly comprises the administrative tracts forming the Lieutenant-Governorships of Bengal and the United Provinces, together with the eastern portions of the Punjab and Rājputāna, and most of Eastern Bengal and Assam. In Muhammadan histories the term is used for a smaller area, comprising the east of the Punjab and Rājputāna and the greater part of the United Provinces. Thus Abul Fazl treated the province of Lahore as outside of Hindustān. During the eighteenth and first half of the nineteenth centuries the term Hindustān was loosely employed by geographers to include the whole of India. The name means the 'place of the Hindus', and it has been applied to the *lingua franca* of Northern India, called Hindustāni or Urdū, which is a dialect of

Western Hindī, with a greater or less admixture of Arabic and Persian vocables, according to the taste of the speaker.

Hinganghāt Tahsīl.—Southern *tahsīl* of Wardhā District, Central Provinces, lying between 20° 18′ and 20° 49′ N. and 78° 32′ and 79° 14′ E., with an area of 729 square miles. The population in 1901 was 94,801, compared with 111,465 in 1891. The density is 130 persons per square mile. The *tahsīl* contains one town, HINGANGHĀT (population, 12,662), the head-quarters; and 207 inhabited villages. The demand for land revenue in 1903–4 was Rs. 1,86,000, and for cesses Rs. 19,000. Hinganghāt has a larger proportion of the spring crops, wheat and linseed, than the rest of the District. The local variety of cotton, called after the name of the town, was formerly well-known, but the seed has now become mixed with inferior varieties, and the quality has deteriorated. Excluding 17 square miles of Government forest, 88 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 540 square miles. The *tahsīl* consists of an undulating plain of fertile black soil.

Hinganghāt Town.—Head-quarters of the *tahsīl* of the same name, Wardhā District, Central Provinces, situated in 20° 34′ N. and 78° 51′ E., on the Wunnā river, and on the Wardhā-Warorā branch line of the Great Indian Peninsula Railway, 21 miles from Wardhā town and 492 from Bombay. Population (1901), 12,662. An outbreak of plague in 1898 has not affected its prosperity. The name means the *ghāt* or crossing of the *hingan*-trees (*Balanites aegyptiaca*). Old Hinganghāt was a straggling ill-arranged town, liable to be flooded by the Wunnā river during the monsoon. The new town, a quarter of a mile distant from the old one, is laid out in two sets of three broad streets at right angles to each other, and furnished with rows of trees like boulevards. Hinganghāt was created a municipality in 1867. The receipts and expenditure during the decade ending 1900 averaged Rs. 35,000. By 1903–4 the income had largely expanded, and amounted to Rs. 70,000, octroi being the principal head of receipt. The town is a leading centre of the cotton-trade. The Hinganghāt Mill Company, established in 1881, has a capital of 3·5 lakhs and 30,888 spindles. Another mill, with nearly 15,000 spindles and 160 looms, which began work in 1900, is the sole property of a resident of Hinganghāt, who has invested 13 lakhs in it. There are also 10 cotton-ginning factories, and 4 pressing factories, containing 265 gins and 2 presses, with an aggregate capital of about 7 lakhs. The town is supplied with water from the Wunnā river. A filtration well has been sunk in the bed of the river at a distance of about two miles, from which water is pumped into an elevated reservoir and distributed to the urban area in pipes. The works were opened in 1883, the capital expenditure being 1·36 lakhs, and the

annual maintenance charges Rs 8,000. Hinganghāt has a high school and a dispensary, and a town hall has recently been built. Other large public improvements likely to be completed in the immediate future are the improvement and extension of the water-works and the construction of a market.

Hinglāj.—The best-known place of pilgrimage in Baluchistān, situated in 25° 30′ N. and 65° 31′ E., below the peak of the same name on the banks of the Hingol river in the Las Bela State. The shrine, which is dedicated to a goddess known as Nāni by Muhammadans and Pārbati, Kāli, or Māta by Hindus, lies in a verdant basin and consists of a low castellated mud edifice in a natural cavity. A flight of steps leads to a deeper semicircular cleft through which pilgrims creep on all fours. Bands of pilgrims, each conducted by a leader known as an *agwā*, make the journey by land from Karāchi. Fees are collected at Miāni by a *bhārti* or hereditary examiner, on behalf of the Las Bela officials, from all except devotees and unmarried girls. The proceeds yield about Rs. 600 to the State annually.

Hingol.—The largest river in Baluchistān, 358 miles long. It rises at the head of the valley of Sūrāb, and drains the western side of the Jhalawān country and the north-eastern part of Makrān. The Hingol is known by a variety of names: as the Rej in Sūrāb, as the Gidar Dhor in the Gidar valley, and as the Nāl Kaur in the central part of its course. Its principal affluents join it in the south. They are the Mashkai, which meets the main stream under the name of the Pao, and the Arra. The Mashkai drains a very large area, including the Mashkai, Rāghai, and Gichk valleys. There is no continuous flow of water in the upper part of the course of the Hingol; it meanders through stony valleys, the water being utilized wherever possible for cultivation, and constantly disappears in underground channels. From Kurragi in Jau downwards the supply becomes perennial. Thence the river passes through a series of magnificent but narrow gorges, and falls into the Arabian Sea in 25° 23′ N. and 65° 28′ E. Near its mouth is the celebrated shrine of Hinglāj.

Hingoli Tāluk.—North-eastern *tāluk* of Parbhani District, Hyderābād State, with an area of 713 square miles. Including *jāgīrs*, the population in 1901 was 85,071, compared with 108,153 in 1891, the decrease being due to the famine of 1900. The *tāluk* contains one town, HINGOLI (population, 17,256), the head-quarters; and 209 villages, of which 19 are *jāgīr*. The land revenue in 1901 was 1·9 lakhs. The Penganga river separates it on the north and north-east from the Bāsim District of Berār. The soils are mainly *regar* and alluvial.

Hingoli Town.—Head-quarters of the *tāluk* of the same name in Parbhani District, Hyderābād State, situated in 19° 43′ N. and 77° 9′ E. Population (1901), 17,256, of whom 11,395 are Hindus, 5,289 Musal-

māns, and 52 Christians. It contains three schools with 230 pupils, of which one is a middle school, and one a girls' school. It is also the head-quarters of the Second Tālukdār, and contains a State post office and a British sub-post office, a Munsif's court, a dispensary, two ginning factories, and a cotton-press. It was a cantonment of the Hyderābād Contingent up to 1903. Since the removal of the Contingent, some of the Nizām's troops have been stationed here. Hingoli is a great cotton mart, and is famous as one of the first places in the Deccan at which operations for the suppression of *thagi* were commenced about 1833. Fourteen miles south-west of Hingoli is the village of Aundah, containing the ruins of an immense temple destroyed by Aurangzeb. The carvings in the basement are of a very elaborate description, resembling those on the temple of Kailās at Ellora.

Hirāpur.—*Thakurāt* in the BHOPĀL AGENCY, Central India.

Hirekal Gudda.—A group of hills in the Arsikere *tāluk* of Hassan District, Mysore State, lying between 13° 20′ and 13° 28′ N. and 76° 19′ and 76° 23′ E. At the southern end is the temple of Mālekal Tirupati. Conspicuous towards the north is Garudangiri (3,680 feet), crowned with a fort built by the Rājā of Mysore in 1660. In 1770 it was occupied for a time by the Marāthās, but reverted to Mysore.

Hiremugalūr.—Village in the Chikmugalūr *tāluk* of Kadūr District, Mysore, situated in 13° 18′ N. and 75° 48′ E., one mile from Chikmugalūr town. Population (1901), 2,392. Its Purānic name is Bhārgavapuri, and here the emperor Janamejaya is said to have performed the *sarpa-yāga* or 'serpent sacrifice,' to revenge the death of his father Parikshit from the bite of a serpent. A spear-headed stone pillar is shown as the *yūpa-stambha* or 'sacrificial post' used at the ceremony. Any one bitten by a snake will be cured by going round it and bathing in the pond close by. The village is surrounded by rich black soil. Inscriptions show that it was an *agrahāra* under the Gangas in the ninth century, and under the Hoysalas in the eleventh. It contains a temple to Parasu, the axe of Parasu Rāma.

Hiriyūr.—South-eastern *tāluk* of Chitaldroog District, Mysore, lying between 13° 41′ and 14° 12′ N. and 76° 26′ and 76° 57′ E., with an area of 635 square miles. The population in 1901 was 66,290, compared with 45,974 in 1891. After the reconstruction of the *tāluk* in 1903 the population was 48,464. The *tāluk* contains one town, Hiriyūr (population, 2,213), the head-quarters; and 152 villages. The land revenue demand in 1903-4 was Rs. 57,000. The south-west is crossed by parallel ranges of low rocky hills. Through a gorge called the Māri Kanave in these hills the Vedāvati flows north-east across the centre of the *tāluk* to some distance beyond Hiriyūr, where it receives a considerable stream from the south, and turns north. The south-west is peculiarly barren in appearance, being covered with masses of hills,

scantily clothed with jungle and generally capped with black rock. No gardens or tanks relieve the harshness of the landscape. Everywhere stones cover the ground, even in the fields. These hills are included in the auriferous Chiknāyakanhalli band. In the north-west, Aymangala is a flat and stony country, but contains much black soil. The rest of the *tāluk* is separated by an abrupt and decided line, nearly identical with the Hiriyūr-Bangalore high road, north of which is black soil, and south of it red, but stony and broken. *Jola* and cotton are the principal products of the black soil, *rāgi* and *avare* of the red. Iron is smelted at Arsingundi, Chikka Byāladakere, and other villages, there being a large manufacture of shoes for bullocks and horses at the latter. At Mattod are glass-works, formerly very extensive, occupied in making glass bangles for women.

Hissār District (*Hisār*).—District in the Delhi Division of the Punjab, lying between 28° 36′ and 30° N. and 74° 29′ and 76° 20′ E., with an area of 5,217 square miles. It is bounded on the north by Ferozepore District, and by the State of Patiāla; on the east by the Jind *nizāmat* of Jind State, and by the District of Rohtak; on the south by the Dādri *nizāmat* of Jind, and the territory of the Nawāb of Lohāru; and on the south west by the State of Bikaner. Situated on the borders of the Bikaner desert, it has in many respects the characteristics of Rājputāna rather than of the Punjab; its general aspect is that of a plain or prairie, unbroken except by some detached peaks of the Arāvalli range in the extreme south-west, the highest of which is Toshām hill with an elevation of 800 feet. The only river, the Ghaggar, enters the District in two branches, known as the Ghaggar and Johiya, meeting below Sirsa.

Physical aspects.

With the exception of some small outliers of gneiss at Toshām, there is nothing of geological interest in the District, which is otherwise entirely of alluvial formation.

The north-eastern part resembles as regards its vegetation the upper Gangetic plain, while the southern border is botanically akin to Rājputāna. The Sirsa subdivision resembles the desert and the Western Punjab. The fodder grasses of the tracts round Hissār and Hānsi (largely species of *Panicum* and *Pennisetum*) are celebrated. A stunted kind of *zizyphus* (*Z. nummularia*), common in the drier tracts of Northern India, is conspicuous in this District, and its leaves are valued locally for cattle.

Wild animals are comparatively rare, owing to the absence of water, but antelope and 'ravine deer' (gazelle) are common, and hog are plentiful in parts. Wolves are also fairly numerous. *Nilgai* are sometimes met with near Hissār.

Owing to the extreme dryness of the climate, the District is healthy.

Even the canal-irrigated tracts, where there used to be a great deal of fever and the people presented a striking contrast to the inhabitants of the dry region, have been healthy since the cultivation of rice was stopped about ten years ago. Both the heat in summer and the cold in winter are extreme, and epidemics of pneumonia are not uncommon in the winter months.

As the District lies on the edges of both the Bengal and Bombay monsoon currents, the most striking feature in the rainfall is its extreme variability, and the partial manner in which it is distributed. The yearly average varies from 14 inches at Sirsa to 16 at Hissār, where 14 inches fall in the summer and 2 in the winter. The greatest annual rainfall recorded during the last twenty years was 37·4 inches at Bhiwāni in 1885-6, and the least 3·1 inches at Sirsa in 1899-1900.

History.

A large part of the District is, with parts of Rohtak, better known to history as HARIANA. The once fertile tract watered by the Ghaggar had its capital at Hānsi, which was the ancient capital and southernmost point of the Siwālik territory, and which archaeological investigations show to be one of the oldest towns in India. The numerous architectural remains of Hindu origin, found built into the walls of Muhammadan tombs and mosques throughout the District, testify to its having been the abode of an ancient and vigorous Hindu civilization. The most interesting of these are to be found at HISSĀR, HANSI, FATAHABĀD, and TOSHAM. An inscription at Tosham seems to commemorate a victory over Ghatotkacha, the second known member of the Gupta line (*circa* A.D. 305), and it appears probable that Hānsi was a stronghold of the Kushan rulers of the Punjab.

The District is said to have been overrun in the eighth century by the Tomar Rājputs, and afterwards to have fallen under the dominion of the Chauhāns. In 1036 Hānsi was captured by Masaud, son of Mahmūd of Ghazni: but in 1043 it was retaken by the Delhi Rājā, probably a Tomar vassal of the Chauhāns. After the defeat of Prithwi Rāj by Muhammad of Ghor in 1192, the Jāts laid siege to Hānsi, but were defeated by Kutb-ud-dīn. Hānsi then became a fief of the Delhi kingdom. The districts of Delhi, Ajmer, Hānsi, and Sirsa fell into the hands of the conqueror; but no settled rule seems to have been at first established in this tract, which in the ensuing anarchy was dominated by the Jātu Rājputs, an offshoot of the Tomars. Muhammadan power was, however, gradually consolidated; and about 1254, in the reign of Mahmūd Shāh I, the District, including Hānsi, Sirsa, Barwāla, and Jīnd, was assigned as a fief to Ulugh Khān-i-Azam, afterwards the emperor Balban.

Until the eighteenth century the tract remained a flourishing division of the Muhammadan empire, and Sirsa or Sarsūti was in the fourteenth

century, according to Wassāf, one of the most important towns in Upper India. The towns of Fatahābād and Hissār were founded in 1352 and 1356 respectively by Fīroz Shāh III, and canals were dug from the Ghaggar and Jumna for their use. After the capture of Bhatner, Tīmūr marched through the District via Sirsa, Fatahābād, Rajabpur, Ahrūni, and Tohāna. It is evident from his account that these towns were wealthy and prosperous, for he took much booty in Sirsa, Fatahābād, and Ahruni, and drove the Jāts of Tohāna into their sugar-cane fields and jungles.

During the eighteenth century the country appears to have been held by Muhammadan tribes claiming Rājput origin, of whom the chief were the Johiyas round Bhatner (HANUMĀNGARH) and the Bhattis about Rānia, Sirsa, and Fatahābād, from whom the western part of the District took its name of BHATTIANA. The Bikaner annals tell of the incessant struggles of the Hindu Rājputs of that State with the Johiyas and Bhattis for the possession of Bhatner and sometimes of Sirsa; and the chronicles of Patiāla are full of raids and counter-raids between the Sikh Jats and their hereditary foes, the Bhattis. On the death of Aurangzeb in 1707 we find Nawāb Shāh Dād Khān, a Pathān of Kasur, *nāzim* of the *sarkār* of Hissār; and under his rule, from 1707 to 1737, the people and country appear to have prospered exceedingly. He was succeeded by the Nawābs of Farrukhnagar, in Gurgaon, who ruled till 1761. But Nādir Shāh ravaged the land in 1739; and with the disintegration of the Delhi empire Hissār became the scene of a sanguinary struggle between the Sikhs of the north-east, the marauding Bhattis of the north and north-west, and the imperial power of Delhi. In 1731 Ala Singh, the founder of the Patiāla State, had already commenced a struggle with the Bhatti chiefs of Bhatner and Fatahabād which lasted during his lifetime; the Bhattis, though supported by imperial troops, were defeated in 1754 and 1757, and Hissār was sacked in 1757 and Tohāna in 1761. In the latter year Nawāb Amin Khān, the Bhatti chief of Rānia, was appointed *nāzim* of Hissār; but he had no better fortune, and by 1774 Amar Singh, successor of Ala Singh, had become master of the whole of the Hānsi, Hissār, and Sirsa territories. On Amar Singh's death in 1781, an agreement was made whereby Hissār, Hānsi, Toshām, Rohtak, and Maham were assigned to the empire, Sirsa and Fatahābād to the Bhattis, and the rest of their conquests to the Sikhs; but the great famine of 1783, which entirely devastated the District, compelled the latter to retire to their own country. The territories thus left derelict were in 1797 occupied by the adventurer George Thomas, who for three years maintained an independent kingdom in Hānsi and Hissār. However in 1802, after an obstinate defence of Hānsi, he surrendered to an army under Bourquin sent against him by Perron, Sindhia's

French general; and the country was for a brief space under the Marāthā dominion.

In 1803 Hissār and Sirsa, with the territories ceded by Sindhia, passed nominally to the British; but although a military post was maintained at Hānsi, and *nāzims* or native superintendents were placed in civil charge, little was done towards enforcing order until 1810, when an expedition was rendered necessary by the continued raids of the Bhatti chiefs. In consequence of these the territory of Fatahābād was annexed, and a second expedition in 1818 secured the rest of the territory held by the Bhattis. Thus the whole of the Sirsa *tahsīl* was brought under British rule. Most of the present District was in 1820 included in the Western District of the Delhi territory. During the years that followed, the Sikh Rājās, taking advantage of British neglect and the waste condition of the dry tract beyond the Ghaggar, began a series of irregular colonizations, which continued uninterrupted till 1837. The British Government, after a long boundary contention with Patiāla, asserted its supremacy over the dry tract, which was resumed, and, together with the valley of the Ghaggar, made into a separate District under the name of BHATTIĀNA, in which all the present *tahsīl* of Sirsa was included. Additions were made to the territory by other resumptions from encroaching Native States in 1844, 1847, and 1855.

In the Mutiny of 1857 the troops at Hānsi were the first to rise, followed by those at Hissār and Sirsa; all Europeans who did not fly were murdered, and Hissār and Sirsa were wholly lost for a time to British rule. The Ranghars and Pachhādas of Hissār and the Bhattis of Sirsa, followed by the majority of the Muhammadan villagers, rose in insurrection; but before Delhi had been recovered a force of Punjab levies, aided by contingents from Patiāla and Bikaner, under General van Cortlandt, utterly routed them. After the Mutiny Hissār and Bhattiāna Districts were transferred from the North-Western Provinces to the Punjab, and the latter became the Sirsa District. In 1884 that District was broken up; the Sirsa *tahsīl* and 126 villages of Dabwāli were transferred to Hissār, while Fāzilka and the remaining 31 villages of Dabwāli were amalgamated with Ferozepore District. The small Budhlāda tract was transferred from Karnāl to Hissār in 1889. In 1904 two villages of the District were transferred, with a cash payment of Rs. 25,000, to the Bīkaner State, in exchange for a few villages held by the Darbār in the Deccan.

Population.

Hissār contains 8 towns and 964 villages. Its population at each of the last three enumerations was: (1881) 672,569, (1891) 776,006, and (1901) 781,717. It increased by less than 7 per cent. during the last decade, the low rate being chiefly due to emigration during the famine years of 1897 and 1900.

The District is divided into the five *tahsīls* of HISSĀR, HĀNSI, BHIWĀNI, FATAHABAD, and SIRSA, the head-quarters of each being at the place from which it is named. The chief towns are the municipalities of BHIWANI, HANSI, HISSAR, and SIRSA, Hissār being the head-quarters of the District.

The following table shows the distribution of population in 1901 :—

Tahsīl	Area in square miles.	Number of Towns	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901	Number of persons able to read and write.
Hissār	810	1	134	128,783	159·0	+ 5·3	3,563
Hānsi	799	1	132	178,933	224·0	+ 8·0	4,283
Bhiwāni	750	1	131	124,429	165·9	— 2·6	5,585
Fatahabād	1,179	1	261	190,921	161·9	+ 5·1	3,218
Sirsa	1,651	4	306	158,651	96·1	- 11·2	4,722
District total	5,217*	8	964	781,717	149·8	+ 0·7	21,371

* The only figures available for the areas of *tahsīls* are those derived from the revenue returns, and the *tahsīl* densities have been calculated on the areas given in the revenue returns for 1900-1. These returns do not always cover the whole of the country comprised in a *tahsīl*, and hence the total of the *tahsīl* areas does not agree with the District area as shown in the *Census Report* of 1901, in the table above, and on p. 144, which is the complete area as calculated by the Survey department. The tracts not included in the revenue survey are as a rule uninhabited or very sparsely populated.

Hindus number 544,799, or more than 70 per cent. of the total, Muhammadans 202,009, and Sikhs 28,642. Owing to the large areas of sandy soil, the density of the population is only 150 persons per square mile, and even on the cultivated area it is only 194, the precarious nature of the cultivation forbidding it to support more. The vernaculars are Hariānī, Bāngru or Deswāli in the south, Punjābi in the north, and Bāgri in the south-east. Bāgri and Hariānī run very much into one another; to a less extent Punjābi blends with Hindi and Bāgri through Pachhādi, the Punjābi dialect of the Muhammadan Pachhādas.

Most important of the land-owning tribes are the Jāts or Jats, who number 195,000, and comprise one-fourth of the population. They may roughly be divided into four classes: the Deswāli Jāts of Hariāna, some of whose ancestors appear to have inhabited the District in ancient times; the Bāgri Jāts, immigrants from the Bāgar country of Bikaner; the Sikh Jāts of Sirsa, who came from the Mālwā country and from Patiāla; and the Muhammadan Jāts, who form part of the nondescript collection of tribes known as Pachhādas. The Deswāli and Bāgri Jāts are practically all Hindus and intermarry. The Rājputs number 70,000, or 9 per cent. of the population; three-fourths of them are Muhammadans. The oldest clan is the Tonwar or Tomar, who first entered the District during the ascendancy of the Tomar dynasty

under Anang Pāl at Delhi. Other important clans are the Jātu, Bhatti, Wattu, Johiya, Chauhān, Ponwār, and Rāthor. As a rule the Rājput, retaining the military traditions of his ancestors, is a lazy and inefficient agriculturist, somewhat prone to cattle-stealing. The Pachhādas (30,000), as they are termed by others, are a congeries of Muhammadan tribes, many of which claim to be Rājputs, though the claim rests on but slender evidence. Their name and tradition point to their having come from the west (*pachhim*), and their facial type suggests a connexion with the tribes of the Western Punjab. They are indifferent agriculturists, lazy, improvident, and sometimes cattle-thieves; in physique inferior to the Deswāli and Sikh Jāts, though perhaps superior to the Bāgri. The Mālīs, chiefly market gardeners (13,000), are entirely Hindu, the Arains (5,000) Muhammadan; Brāhmans (43,000) are chiefly Gaur, Sārsut, Khāndelwāl, Dahmīa, Gujarāti, Achārj, and Chamārwa in order of status. The great majority of the Gaur and Sārsut Brāhmans are agriculturists, but all are fed on various occasions and venerated, though disliked. Pushkarna Brāhmans from Ajmer are also found. Of the commercial classes the most important is that of the Baniās (61,000), who are divided into three subdivisions—Agarwāl, Oswāl, and Mahesrī who neither smoke, eat, nor intermarry with each other. Of artisan and menial tribes may be noted the Ahīrs (10,000), a vagrant tribe who claim Rājput origin, the Tarkhāns, carpenters (20,000), the Lohārs or blacksmiths (10,000), the Chamārs or leather-workers (69,000), the Dhānaks (20,000), and the Chūhrās or scavengers (25,000). Of the total population of the District, 72 per cent. are agricultural, and practically the whole of the rural population is dependent on agriculture.

Two lady missionary doctors are stationed at Bhiwāni, where the Baptist Mission of Delhi maintains a girls' school. The District is also visited by missionaries of the Society for the Propagation of the Gospel from Delhi. In 1901 it contained 53 native Christians.

Agriculture.

The District is divided into four natural tracts. Of these, the Rohi of the Sirsa *tahsīl* stretches from the northern boundary to the Ghaggar. Its soil is a soft loam with a reddish tinge, interspersed with sand and clay; the spring-level in the wells varies from 40 to 180 feet, the crops depend entirely on rainfall, and vegetation is sparse. South of the Rohi lies the western extremity of the Nāli tract, stretching from east to west through the Fatahābād and Sirsa *tahsīls*, and traversed by the Ghaggar and Johiya. Its characteristic feature is a hard iron-clay soil, which permits of no cultivation until well saturated by the summer floods. Here the harvest depends on inundation from the Ghaggar and Johiya, helped in some parts by well-irrigation. The Bāgar tract stretches from the south and south-west of Sirsa along the western border of the District, through

Sirsa, Fatahābād, Hissār, and Bhiwāni, gradually widening towards the south. Here the prevailing features are a light sandy soil and shifting sandhills, interspersed in parts with firmer and even loamy bottoms; the spring-level is more than 100 feet below the surface, and the water frequently bitter. Practically the autumn crop is the only one sown, and that depends entirely on a sufficient rainfall. The Hariāna tract stretches from the tract watered by the Ghaggar to the south-east corner of the District; it comprises the whole of Hānsi and the eastern portions of Fatahābād, Hissār, and Bhiwāni, and is traversed by the Western Jumna Canal. The leading feature of this tract is its firm clay soil; sandhills are found, and in low-lying parts hard clayey soil. The spring level is generally below 100 feet, except in canal villages, where it rises to 30 or 40 feet. Apart from the canal tract, agriculture is practically confined to the autumn crop. The small jungle tract of Budhlāda, consisting of 15 outlying villages in the north of the Fatahābād *tahsil*, is sometimes classed as a fifth tract, but resembles the Rohi. Taking the District as a whole, only 9 per cent. of the cultivation is irrigated, and the rainfall is therefore of the utmost importance; on the rain of June and July depend the sowings of all the autumn crops, and on that of August and September the ripening of the autumn and the sowing of the spring crops. Until recently the autumn harvest was the mainstay of the District; but of late years, owing to the good prices obtained for wheat, the spring harvest has taken the leading place, and the best season is one in which there is heavy rain at the end of August and all through September.

The area for which details are available from the revenue records of 1903-4 is 5,180 square miles, as shown below:—

Tahsil	Total.	Cultivated	Irrigated	Cultivable waste
Hissār . . .	810	623	53	98
Hānsi . . .	799	690	180	60
Bhiwāni . . .	750	603	6	110
Fatahābād . .	1,179	1,300	69	165
Sirsa . . .	1,642	945	75	300
Total	5,180	4,161	383	733

The principal staples of the spring harvest are gram and barley, the areas under which in 1903-4 were 478 and 168 square miles respectively. Wheat covered only 109 square miles. The chief food-grain of the autumn harvest is spiked millet, which occupied 929 square miles. Great millet comes next with 381 square miles, and then pulses with 175. Practically all the sugar-cane and cotton grown is irrigated, with four-fifths of the maize, three-fifths of the rice, and two-fifths of the wheat. No other crop is irrigated to any appreciable extent.

The cultivation of rice has of late years been prohibited in canal lands, and its place largely taken by cotton. Experiments are being carried on chiefly with the object of introducing cotton of a longer staple. There is great room for improvement in the methods adopted by the people for utilizing the canal water at their disposal.

Large advances are given both under the Land Improvement Loans Act for digging and clearing wells, and under the Agriculturists' Loans Act for the purchase of bullocks and seed. During the five years ending September, 1904, a total of Rs. 73,000 was advanced under the former and 18 lakhs under the latter Act, of which Rs. 43,627 and 10·5 lakhs respectively was advanced during the famine year 1899–1900.

Hariāna was always famous for its cattle, which were the chief support of its former pastoral inhabitants. The breed is still good, though cattle-breeding is somewhat on the wane owing to the spread of cultivation. The Hissār Government cattle farm was started in 1813, and now covers 66 square miles. The pure breeds of cattle maintained are the Gujarāti, Ungoli, Nagaur, and Mysore, which are also crossed with Hariāna cows. Of late years mule-breeding has been commenced. Large cattle fairs are held at Hissār and Sirsa, at which it is estimated that animals of the total value of 6½ lakhs are sold annually. The camel is used in all parts for riding and carrying loads, and where the soil is light does a large part of the ploughing. The local breed of horses is in no way above the average. The District board maintains 5 horse and 4 donkey stallions.

Of the total area cultivated in 1903–4, 383 square miles, or nearly 9 per cent., were classed as irrigated. Of this area, 6 square miles were irrigated from wells and 377 from canals. In addition 83 square miles, or 2 per cent., are subject to inundation from the Ghaggar and other streams. The Hānsi branch of the WESTERN JUMNA CANAL irrigates the Hānsi, Hissār, and Bhiwāni *tahsīls*, while the Sirsa branch irrigates parts of Fatahābād, Hissār, and Sirsa. The GHAGGAR CANALS supply part of the Sirsa *tahsīl*, and the Budhlāda tract and a portion of Sirsa are watered by the SIRHIND CANAL. The area under canal-irrigation increased from 120 square miles in 1891 to 377 in 1904. The area supplied by wells is insignificant, owing to the great depth to water, and the chief use of well-irrigation is to enable sowings to be made for the spring harvest. The total number of wells in use for irrigation was only 854 in 1903–4, all being worked by cattle on the rope and bucket system.

The greater part of the cattle farm, known as the Hissār Bīr, is a 'reserved' forest, measuring 65 square miles, under the Civil Veterinary department, the income from which in 1903–4 was Rs. 4,379. The Bīr at Hānsi is an unclassed forest under the same department. Three pieces of grazing-ground are managed by the Deputy-Com-

missioner at Hissār, Sirsa, and Hānsi for the town cattle. The total area of forest land is: 'reserved,' 65 square miles; and unclassed, 5 square miles. Trees have been extensively planted with the aid of canal water by the District board in and around the civil station of Hissār and the town of Hānsi, and the Bīr at Hānsi is also being planted with trees to make a fuel reserve.

Kankar or calcareous limestone is found in many localities. Saltpetre is manufactured from saline earth in the villages, and refined in the licensed refineries at Bhiwāni, Hānsi, and Sirsa.

Trade and communications.

The District has no manufactures of importance. Coarse cotton cloth is woven almost everywhere: and there are 10 cotton-ginning factories, 3 cotton presses, and 3 factories where ginning and pressing are combined. Hānsi is the industrial centre, but four of the factories are at Bhiwāni, and one at Narnaund, while the cotton-ginning and pressing factory of a native firm at Hissār is the largest in the District. These industries employed a total of 2,061 hands in 1904. Bhiwāni is known for its plain brass and bell-metal work, and for its carved doors. The District produces cotton *phulkāris* embroidered with silk, which are of exceptional excellence, and embroidered woollen *phūlkāris* are also made. The carpenters' work is above the average.

The chief centres of trade are Bhiwāni, Hānsi, Hissār, Budhlāda, and Sirsa on the railway; but a good deal of local trade does not pass through these places, being brought direct to the consumers by individual speculators, generally Bishnoi or Bāgri Jāts. Hissār town and Hānsi are chiefly distributing centres for local requirements, but Bhiwāni and Sirsa are important as centres of through trade to Rājputāna, wheat, flour, sugar, and cotton goods being largely exported.

The Rewāri-Bhatinda branch of the Rājputāna-Mālwā Railway runs through the District for 122 miles, while the Southern Punjab Railway passes through Budhlāda, Jākhal, and Tohāna, and the Jodhpur-Bikaner Railway runs through part of Sirsa *tahsīl*. The District has 26 miles of metalled and 949 of unmetalled roads, of which 17 miles of metalled and 90 of unmetalled roads are under the Public Works department and the rest under the District board. The unmetalled roads are fit for cart traffic, except in the sandy tracts where camels are used. The Hānsi branch of the Western Jumna Canal is navigable as far as Hānsi.

Famine.

Hissār has always been most liable to famine of all the Districts of the Punjab, owing to the fact that, while pre-eminently dependent on the autumn harvest and very little protected by irrigation, it suffers from a most capricious monsoon, and also receives the first rush of starving wanderers from Bīkaner.

The *chālīsa* famine of 1782-3, as has been related, laid waste the District; and in all the famines that have since visited the Punjab, Hissār has always suffered in a pre-eminent degree. Both in 1896-7 and in 1899-1900 the whole of the unirrigated area, or 3,763 square miles, was affected. In 1896-7 the greatest number relieved on any one day was 82,505 persons, and the highest death-rate in any one week 81 per 1,000. The amount expended by Government was 12·3 lakhs in 1896-7, and 25·7 lakhs in 1899-1900. The severity of the famine of 1899-1900 was accentuated by the fact that the people had not recovered from the preceding famine.

Administration.

The District is in charge of a Deputy-Commissioner, assisted by three Assistant or Extra-Assistant Commissioners, of whom one is in charge of the Sirsa *tahsīl* and subdivision. Each of the five *tahsīls* is in charge of a *tahsīldār*, assisted by a *naib-tahsīldār*. Dabwāli in Sirsa and Tohāna in Fatahābād are sub-*tahsīls* under *naib-tahsīldārs*.

The Deputy-Commissioner as District Magistrate is responsible for the criminal justice of the District. Civil judicial work is under a District Judge. Both officers are supervised by the Divisional Judge of Ferozepore. The District Judge has a Munsif under him at head-quarters, and there are four honorary magistrates. Cattle-theft is the principal crime of the District, for which its position, surrounded by Native States, affords peculiar facilities. It is practised chiefly by the Muhammadan Rājputs and Pachhādas.

The revenue history of Hissār proper is quite distinct from that of the Sirsa *tahsīl*, which was only added to the District on the disruption of the old Sirsa District in 1884. The greater part of Hissār was occupied by the British in 1810, and underwent three summary settlements for ten, five, and ten years between 1815 and 1840. The main feature of these assessments was a demand so high that full collections were the exception, and the frequent remissions demoralized both the revenue officials and the people. A rush of immigrants had taken place on the establishment of settled government; and when disturbances occurred in the neighbouring Native States, Hissār formed a convenient refuge. The land revenue, however, was fixed and collected with such a complete disregard of the chances of bad seasons, that when the cultivators were pressed for payment they moved off into the Native States whence they had come. The demand of the first settlement (1815-25) was so high that it exceeded by 20 per cent. the revenue fixed in 1890 for the same villages. High though this assessment was, it was increased in the two settlements that followed, until between 1835 and 1839 the demand was 4·9 lakhs for a tract which in 1890 was assessed at only about two-thirds of that sum.

The amount fixed at the regular settlement of 1840 was 37 per cent.

below the old demand. The canal villages were assessed at irrigated rates for the first time in 1839. The reduction came as a new lease of life to the impoverished landholders, and the progress made since has been steady, interrupted only by famine. A revised settlement was made in 1863, which resulted in a further reduction of half a lakh. The second revised settlement was carried out between 1887 and 1892. Cultivation had more than doubled, while prices had risen 60 per cent., and the result was an increase of 58 per cent. to 6 lakhs. The rates varied from 3 to 8 annas an acre, exclusive of canal rates. About 90 per cent. of the tenants pay rent in cash.

The Sirsa *tahsīl*, with the rest of the old Sirsa District, was summarily settled in 1829 and regularly in 1851. In 1881–2, the last year of the regular settlement, the demand stood at 1·4 lakhs, which was raised by the new assessment to 1·9 lakhs. The assessment was revised for the second time between 1901 and 1903, and a fixed assessment of 2 lakhs was announced. The area subject to the very precarious Ghaggar floods was placed under fluctuating assessment, fixed rates for the various crops grown being applied to the area actually cropped every harvest. It is estimated that the yield from this fluctuating assessment will be Rs. 39,000 per annum.

The collections of land revenue alone and of total revenue are shown below, in thousands of rupees:—

	1880-1	1890-1	1900-1	1903-4.
Land revenue	4,46	7,60	6,48	8,09
Total revenue	5,08	9,65	9,99	11,60

The District contains four municipalities, HISSĀR, HĀNSI, BHIWĀNI, and SIRSA: and three notified areas, FATAHĀBĀD, TOHĀNA, and Budhlāda. Outside these, local affairs are managed by the District board, whose income amounted in 1903-4 to 1¼ lakhs. The expenditure in the same year was 1·3 lakhs, education and public works forming the principal items.

The regular police force consists of 681 of all ranks, including 180 municipal police, under a Superintendent who is usually assisted by 4 inspectors. The village watchmen number 1,474, and 42 *chaukīdārs* are directly under the Superintendent. There are 19 police stations, 4 outposts, and 6 road-posts. The District jail at head-quarters has accommodation for 252 prisoners.

The District stands twenty-fifth among the twenty-eight Districts of the Province in respect of the literacy of its population. In 1901 the proportion of literate persons was 2·7 per cent. (5 males and 0·1 females). The number of pupils under instruction was 1,753 in 1880–1[1], 3,568

[1] For the District as then constituted.

in 1890–1, 3,803 in 1900–1, and 4,258 in 1903–4. In the last year there were 6 secondary and 73 primary (public) schools, and 3 advanced and 46 elementary (private) schools, with 167 girls in the public and 91 in the private schools. The Anglo-vernacular schools at Hissār town, Bhiwāni, and Sirsa are the most important. Two girls' schools at Bhiwāni are maintained by the Baptist Zanāna Mission. The total expenditure on education in 1903–4 was Rs. 40,000, to which Provincial funds contributed Rs. 2,000, municipalities Rs. 11,000, fees Rs. 10,000, and District funds Rs. 16,000, while the rest (Rs. 1,000) was met from subscriptions and endowments.

Besides the dispensary at Hissār the District possesses eight outlying dispensaries. In 1904 at these institutions 71,314 out-patients and 2,216 in-patients were treated, and 6,027 operations were performed. The expenditure was Rs. 20,000, the greater part of which was met from municipal funds.

The number of successful vaccinations in 1903–4 was 18,038, or 23·7 per 1,000 of the population.

[J. Wilson, *General Code of Tribal Custom in the Sirsa District* (1883); P. J. Fagan, *District Gazetteer* (1892, under revision); A. Anderson and P. J. Fagan, *Settlement Report of Hissār* (1892); C. M. King, *Settlement Report of Sirsa and Fāzilka Tahsīls* (1905).]

Hissār Tahsīl.—*Tahsīl* of Hissār District, Punjab, lying between 28° 54′ and 29° 32′ N. and 75° 22′ and 76° 2′ E., on the borders of the Bīkaner desert, with an area of 810 square miles. The population in 1901 was 128,783, compared with 122,299 in 1891. HISSĀR TOWN (population, 17,647) is the head-quarters, and the *tahsīl* also contains 134 villages. The land revenue and cesses in 1903–4 amounted to 1·6 lakhs. The northern part is a bare plain, forming part of the tract known as Hariāna, where the soil is a firm sandy loam. South of the thin belt of fertility afforded by the Western Jumna Canal, the level stretches of poor cultivation gradually merge into the rolling sandhills characteristic of the neighbouring State of Bīkaner.

Hissār Town.—Head-quarters of the District and *tahsīl* of the same name, Punjab, situated in 29° 10′ N. and 75° 44′ E., on the Rewāri-Bhatinda branch of the Rājputāna-Mālwā Railway; distant by rail from Calcutta 1,097 miles, from Bombay 979, and from Karāchi 819. Population (1901), 17,647. It was founded in 1356 by Fīroz Shāh Tughlak, and supplied with water by means of the canal now known as the Western Jumna Canal, and became the head-quarters of a *sarkār*. In 1408 Hissar fell into the hands of the rebels against Mahmūd Tughlak, but was recovered in 1411 by the emperor in person. It appears to have been occupied by an imperial garrison at the time of Bābar's invasion, and as the head-quarters of a *sarkār* was of considerable importance under the Mughals. The town was

plundered by the Sikhs on several occasions between 1754 and 1768, and after the battle of Jind was occupied by Amar Singh of Pātiāla, who built a fort. Hissār was depopulated by the famine of 1783, and was taken possession of by George Thomas. The inhabitants began to return, and when it passed to the British in 1803 the town was rapidly recovering. In 1857 detachments of the Hariāna Light Infantry and 14th Irregular Cavalry stationed at Hissār mutinied, and the Collector and eleven other Europeans and native Christians were murdered. The chief relic of antiquity is the fort built by Fīroz Shāh, largely with materials taken from Hindu or Jain temples. Another interesting building is the Jahāj, apparently once a Jain temple converted into a mosque, and used as a residence by George Thomas, of whose Christian name its present title is a corruption. Near Hissār is a handsome group of tombs erected to commanders who fell in Humāyūn's campaign in Gujarāt in 1535. The trade of the town is unimportant, being confined to cotton and red pepper; but it contains a large cotton ginning and pressing factory, which in 1904 employed 397 hands. The municipality was created in 1867. The receipts and expenditure during the ten years ending 1902-3 averaged Rs. 28,700 and Rs. 29,300, and in 1903-4 amounted to Rs. 24,600 and Rs. 27,300 respectively, the chief source of income being octroi. The town possesses an Anglo-vernacular high school managed by the Educational department, and a civil hospital.

Hisuā.—Town in the Nawāda subdivision of Gayā District, Bengal, situated in 24° 50′ N. and 85° 25′ E., on the right bank of the river Tilayā on the Gayā and Nawāda road, 9 miles from Nawāda and 27 miles from Gayā town. Population (1901), 6,704. Hisuā is a station (Tilayā) on the South Bihār Railway. The town is noted for its pottery.

Hiwarkhed. Town in the Akot *tāluk* of Akola District, Berār, situated in 21° 8′ N. and 76° 54′ E. Population (1901), 6,143. The chief trade of the town is in cotton and other agricultural produce.

Hkamti Long.—A collection of seven small Shan principalities, lying approximately between 27° and 28° N. and 97° and 98° E., north of Myitkyinā District, Upper Burma, and east of the north-east corner of Assam. Their area is about 900 square miles and their population about 11,000; but these are only approximations, for, though nominally under the supervision of the Commissioner of the Mandalay Division, Hkamti Long is beyond the 'administrative' border of the Province, and has not yet been brought under direct control. Portions of it have, however, been ascertained to be fertile and fairly populous. It is watered by the Malikha. The tract was formerly an outlying district of the Shan kingdom of Mogaung, and a considerable portion of its inhabitants are still Shans; but the Shan population has of late been

hemmed in, owing to the pressure of the Kachins and other hill tribes. It was visited by Colonels Macgregor and Woodthorpe in 1884–5, by Mr. Errol Gray in 1892–3, and by Prince Henry of Orleans in 1893.

Hlaing.—River of Lower Burma. *See* RANGOON RIVER.

Hlaingbwe.—Easternmost township of Thaton District, Lower Burma, lying between 16° 43′ and 17° 51′ N. and 97° 35′ and 98° 20′ E. with an area of 2,035 square miles. It is separated from Siam on the east by the Thaungyin river, and is hilly and sparsely populated, its inhabitants being mostly Karens. The population was 28,411 in 1891, and 43,726 in 1901, distributed in 208 villages, of which the largest is Hlaingbwe (population, 1,208), the head-quarters, on the east bank of the Hlaingbwe river, 108 miles from Moulmein. The area cultivated in 1903–4 was 81 square miles, paying Rs. 49,500 land revenue.

Hlegu. South-western township of Pegu District, Lower Burma, lying between 16° 54′ and 17° 37′ N. and 96° 1′ and 96° 25′ E., with an area of 703 square miles. The population was 44,758 in 1891, and 49,642 in 1901. The township contains 233 villages, one of the largest of which is Hlegu (population, 1,666), the head-quarters, situated about 12 miles west of the railway, at the point where the Rangoon-Pegu road crosses the Pazundaung stream. The population is mainly Burman, but Karens are numerous. Except at its northern end, Hlegu is level and fertile. The area cultivated in 1903–4 was 161 square miles, paying Rs. 2,57,600 land revenue. The township was formerly known as Paunglin, and was included in Hanthawaddy District till 1883.

Hmawza.—Western township of the Prome subdivision of Prome District, Lower Burma, lying in flat well-populated country between 18° 39′ and 19° 6′ N. and 95° 9′ and 95° 36′ E., with an area of 273 square miles. The population decreased from 78,962 in 1891 to 68,591 in 1901, but still averages more than 250 persons per square mile. It is practically entirely Burman. There are 447 villages, the head-quarters being at Hmawza (population, 580), situated on the railway 5 miles east of Prome town. In 1903–4 the area cultivated was 125 square miles, paying Rs. 1,25,000 land revenue. The township was formerly known as Mahāthaman.

Ho.—An aboriginal tribe of the Chotā Nāgpur Division, Bengal, akin to the MUNDAS, BHUMIJS, and Santāls. The word Ho (Mundārī, *Horo*) means a 'man' in the tribal vernacular, which differs but slightly from Mundārī. The Hos, who numbered 386,000 in 1901, are the characteristic tribe of the KOLHAN Government estate in Singhbhūm District, which they conquered from the earlier inhabitants and successfully defended against all comers until subdued by the British in the early part of the nineteenth century. Their prowess earned them the sobriquet of the Larkā (or 'fighting') Kols. They are great sports-

men, and every year in May they meet together and beat the jungles for game of all descriptions. Their national weapon is the bow and arrow. The great majority of the tribe are Animists, and, unlike their allied tribes, very few of them have as yet become converts to Christianity. They are an exceedingly exclusive race, and are well off, as they hold their lands on easy terms. The bride-price is absurdly high, varying from 10 to 30 head of cattle, as compared with 3 head with the Mundās. As a consequence, the large number of adult unmarried girls is a peculiar feature in the social state of the community.

Hodal.—Town in the Palwal *tahsīl* of Gurgaon District, Punjab, situated in 27° 53′ N. and 77° 23′ E., on the grand trunk road between Delhi and Muttra, and on the Delhi-Agra branch of the Great Indian Peninsula Railway. Population (1901), 8,142. A cotton-ginning factory gave employment to 61 persons in 1904, but the town has little trade. Saltpetre is refined to a certain extent. The Jāt chief, Sūraj Mal, was connected by marriage with the Jāts of Hodal, and the remains of several fine buildings erected by him still exist. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 6,100, and the expenditure Rs. 5,000. In 1903–4 the income amounted to Rs. 6,300, chiefly derived from octroi; and the expenditure was Rs. 7,300. There is a Government dispensary.

Holalkere.—South-western *tāluk* of Chitaldroog District, Mysore (which included Hosdurga as a sub-*tāluk* up to 1902), lying between 13° 52′ and 14° 15′ N. and 76° 2′ and 76° 25′ E., with an area of 105 square miles. The population in 1901 was 81,204, compared with 67,051 in 1891. After the reconstruction of the *tāluk* in 1903 the population was 44,848. The *tāluk* now contains one town, Holalkere (population, 3,418), the head-quarters; and 180 villages. The land revenue demand in 1903–4 was Rs. 87,000. To the east and north are chains of hills included in the Chiknāyakanhalli auriferous band. There is also a group in the west, covered with low jungle. The rest of the *tāluk* is comparatively flat, with red soil, though black soil is found in the south-west. There is good grazing towards the centre. The drainage is mostly north-west to the Sulekere tank.

Holavanhalli.—Village in the Maddagiri *tāluk* of Tumkūr District, Mysore, situated in 13° 32′ N and 77° 18′ E., on the west bank of the Jayamangali, 18 miles north-east of Tumkūr town. Population (1901), 1,682. It was originally called Korampur; but Baire Gauda, one of the Avati family, built the fort and named it after the chief in possession. The estate became tributary to Vijayanagar, but was before long taken by the chief of Dod-Ballāpur, and two years later by the Sūbahdār of Sīra, who restored it to the family. They fortified Koratagere and extended their territory, continuing to rule till subdued by Haidar Alī. The municipality, formed in 1894, was converted into a Union in 1904.

The receipts and expenditure during the seven years ending 1901 averaged Rs. 4,500 and Rs. 4,250. In 1903–4 they were Rs. 900 and Rs. 1,100.

Hole-Narsipur Tāluk.—South-eastern *tāluk* of Hassan District, Mysore, lying between 12° 36′ and 12° 56′ N. and 76° 9′ and 76° 22′ E., with an area of 233 square miles. The population in 1901 was 57,149, compared with 50,894 in 1891. The *tāluk* contains one town, HOLE-NARSIPUR (population, 6,526), the head-quarters; and 238 villages. The land revenue demand in 1903–4 was Rs. 87,000. The Hemāvati river runs through the north, and turning south forms part of the eastern boundary. Two channels, 47½ miles and 12 miles long, drawn from the Srīrāmadeva dam, irrigate 5,020 acres. Except for this the *tāluk* is sterile, the soil being generally very poor, with bleak uplands in the south. Near Hole-Narsipur are a few isolated hills.

Hole-Narsipur Town.—Head-quarters of the *tāluk* of the same name in Hassan District, Mysore, situated in 12° 47′ N. and 76° 14′ E., on the Hemāvati river, 21 miles south-east of Hassan. Population (1901), 6,256. The fort was built in 1168 by a chief who also owned Channarāyapatna. It was taken by the ruler of Mysore in 1667. It contains the *math* of the *gurū* of the Uttarādi branch of Mādhva Brāhmans. Cotton cloth of good quality and gunny-bags are made. The municipality dates from 1873. The receipts and expenditure during the ten years ending 1901 averaged Rs. 3,000 and Rs. 3,700. In 1903-4 they were Rs. 3,800 and Rs. 4,800.

Homalin Subdivision.—Northern subdivision of the Upper Chindwin District, Upper Burma, containing the PAUNGBYIN, HOMALIN, and MAINGKAING townships. The head-quarters are at Homalin.

Homalin Township.—North-western township of the Upper Chindwin District, Upper Burma, lying along the Chindwin on either bank, between 24° 44′ and 26° 0′ N. and 94° 43′ and 96° 0′ E., with an area of 2,524 square miles. It is a mass of hills, comparatively low in the east, but rising in the west to a considerable height. The population, which is almost entirely Shan, was 11,000 in 1891, and 17,624 in 1901, distributed in 166 villages. The head-quarters are at Homalin (population, 1,241), on the Chindwin river, 130 miles above Kindat, and the highest point ordinarily visited by the Irrawaddy Flotilla Company's steamers. The area cultivated in 1903–4 was 32 square miles, and the land revenue and *thathameda* amounted to Rs. 30,000.

Homnābād.—Town in the *paigāh tāluk* of Chincholi, Hyderābād State, situated in 17° 47′ N. and 77° 08′ E. Population (1901), 7,136. It has declined considerably in prosperity since the opening of the Nizām's State Railway, which has diverted trade.

Honalli.—*Tāluk* of Shimoga District, Mysore. *See* HONNĀLI.

Honavalli.—Town in Tumkūr District, Mysore. *See* HONNAVALLI.

Honāvar Tāluka.—Southern *tāluka* of North Kanara District, Bombay, lying between 13° 53′ and 14° 26′ N. and 74° 26′ and 74° 47′ E., with an area of 426 square miles. It includes the petty subdivision (*petha*) of Bhatkal. The *tāluka* contains two towns, HONĀVAR (population, 6,929), the head-quarters, and BHATKAL (6,964); and 152 villages, including MANKI (6,008) and HALDIPUR (5,109). The population in 1901 was 100,068, compared with 93,523 in 1891. The density, 235 persons per square mile, largely exceeds the District average. The demand for land revenue in 1903–4 was 1·9 lakhs, and for cesses Rs. 12,000. The *tāluka* is well watered by unfailing streams. The Gersoppa or Sharāvati river intersects the country, flowing from east to west. The famous GERSOPPA FALLS are 35 miles east of Honāvar town. Near the spurs of the Western Ghāts the forest begins, and, as elsewhere in Kanara, grows deeper and richer as the Ghāts are approached. The climate is good. The rainfall is the heaviest in the District, averaging 140 inches at Honāvar and increasing to 156 inches in Bhatkal.

Honāvar Town (or Onore).—Head-quarters of the *tāluka* of the same name in North Kanara District, Bombay, situated in 14° 17′ N. and 74° 27′ E., 50 miles south-east of Karwār, on the north of an extensive inlet of the sea, which at its south-eastern extremity receives the Gersoppa or Sharāvati river. Population (1901), 6,929. In 1903–4 the value of the exports was 6 lakhs, and of the imports 4 lakhs. The town is mentioned by Abul Fida (1273–1331); and shortly afterwards (1342) is described by Ibn Batuta as rich and well governed, with 23 schools for boys and 13 for girls. At the beginning of the sixteenth century it is said to have exported much rice, and to have been frequented by shipping. In 1505 the Portuguese built a fort at Honāvar; and two years later, in consequence of a dispute with the king of Vijayanagar, they attacked and burnt the town. Cesare de' Federici (1563–81) calls 'Onor' a fort of the Portuguese; and in 1623 De la Valle found it a small place, still in the hands of the Portuguese. On the decay of the Portuguese power in India, Honāvar was acquired by the sovereigns of Bednur; and on the conquest of Bednur by Haidar Ali, this town also submitted to him. In 1783 it was taken by assault by a British force dispatched from Bombay, under the command of General Mathews; and in 1784 was successfully defended by Captain Torriano against Tipu Sultān, to whom, however, in the same year, it was ceded by the Treaty of Mangalore. On the overthrow of Tipu in 1799 it again came into the possession of the British. The town lies about 2 miles from the coast at the mouth of the Gersoppa river, which, with a dangerous bar and an entrance channel about 300 feet broad, expands into a lake 5 miles long and 1 to 2 miles broad. In the lake are five islands, the largest 3 miles long, covered

with palm-trees. About 2 miles north of Honāvar is Rāmtīrth, with a temple of Rāmling. Basavrājdurg, also called Fortified Island, about 3 miles from Honāvar, was fortified by Sivappa Naik. Honāvar has been a municipality since 1890, and had an average income during the decade ending 1901 of Rs. 4,100. In 1903–4 the income was Rs. 8,000. The town contains a Subordinate Judge's court, a dispensary, a middle school, and four other schools.

Hongal (Bail Hongal).—Village in the Sampgaon *tāluka* of Belgaum District, Bombay, situated in 15° 49′ N. and 74° 52′ E. Population (1901), 8,675. There are manufactures of coarse cotton cloth and articles of native apparel, some of which are sold in the neighbouring markets, and the remainder exported via Belgaum to the Konkan. Hongal is built on rising ground at the eastern side of a fine tank from which is drawn the main water-supply of the inhabitants. North of the village stands an old Jain temple, now converted into a *lingam* shrine, which contains two inscriptions of the twelfth century. The prefix 'Bail' refers to the fact of the place being built in an open black-soil country. The market is celebrated for the superior class of bullocks brought to it for sale. A large annual fair is held, at which wrestlers from the surrounding country assemble. There is a branch of the Methodist Episcopal Mission with a mission house and a chapel, and two schools, one for boys and one for girls, with 60 and 30 pupils respectively. There are also two other boys' schools with 220 pupils.

Honnāli.—North-eastern *tāluk* of Shimoga District, Mysore, lying between 14° 4′ and 14° 22′ N. and 75° 24′ and 75° 51′ E., with an area of 331 square miles. The population in 1901 was 68,721, compared with 63,577 in 1891. The *tāluk* contains two towns, Honnāli (population, 3,894), the head-quarters, and NYĀMTI (3,461); and 165 villages. The land revenue demand in 1903-4 was Rs. 1,21,000. The *tāluk* is crossed from south to north by the Tungabhadra with a winding course, and bounded east and west by lines of low stony hills. The north and east consist of 'dry-crop' country of unusual fertility, good black soil being common, and cotton and *jola* the chief crops. The extreme west is purely a rice country, with some sugar-cane, the staple 'dry crop' being *rāgi*. Very rich black soil prevails around Nyāmti and BELAGUTTI. The Honnāli gold-mines were started in the south-west, at the foot of the hills of which the Kalva Rangan peak (3,388 feet) is the highest, but they have ceased working for many years, owing partly to the influx of water. At a bend in the Tungabhadra, where the Hirehalla enters from the west, is the Kuruva island (14° 10′ N. and 75° 45′ E.), containing a celebrated Rāmesvara *tīrtha* and temple.

Honnavalli. — Town in the Tiptūr *tāluk* of Tumkūr District, Mysore, situated in 13° 20′ N. and 76° 23′ E., 5 miles north of

Konehalli railway station. It is named after the tutelary goddess, Honnu-amma, who in a vision directed Somesvara, a chief of Hārnhalli (Hassan District), to found the town. It is situated amid coco-nut plantations, which produce a rare kind called Gangā-pāni, the young nut of which yields delicious milk. The inhabitants include many Brāhmans. The municipality, formed in 1900, became a Union in 1904. The receipts and expenditure for the first year were Rs. 1,200 and Rs. 330. In 1903-4 they were Rs. 1,300 and Rs. 3,400.

Honnu-hole (or Suvarnāvati, both meaning 'golden stream').—A tributary of the CAUVERY, rising in the mountains of Coimbatore (Madras). It then flows through the Chāmrājnagar *tāluk* and the Yelandūr *jagir* of Mysore District (Mysore), and re-entering Coimbatore falls into the Cauvery opposite Talakād, after a course of about 50 miles. Its name is an index of the fertility it spreads on both banks. There are ten permanent dams on it, and additional temporary dams are constructed when the water is low. The channels fed by means of these are more than 50 miles in length, irrigating about 5,000 acres. The river also feeds a number of large tanks, such as the Rāmasamudra near Chāmrājnagar.

Hooghly District (*Hūgli*).—South-eastern District of the Burdwān Division, Bengāl, lying between 22° 36′ and 23° 14′ N. and 87° 30′ and 88° 30′ E. Excluding the separate District of HOWRAH, which for revenue purposes still forms part of Hooghly, it has an area of 1,191 square miles. It is bounded on the north by the District of Burdwān; on the east by the Hooghly river; on the south by the District of Howrah; and on the west by the Districts of Midnapore, Bānkurā, and Burdwān.

Physical aspects.

The high bank of the Hooghly river is densely populated and lined by gardens and orchards, interspersed with villages, temples, and factories; but between it and the bank of the Dāmodar extends a swampy waterlogged tract, which gradually rises towards the north-west. The principal rivers are the HOOGHLY, DAMODAR, and RUPNĀRAYAN. The Hooghly nowhere crosses the boundary, and the Rūpnārāyan (here called the Dwārkeswar) flows only for a few miles across its western angle. The Dāmodar, which formerly entered the Hooghly about 39 miles above Calcutta, now flows almost due south across Hooghly and Howrah Districts, joining the Hooghly opposite Faltā. The result is a partial obstruction to the current of the latter river, and a consequent deposit of silt which forms the dangerous JAMES AND MARY SANDS. As in other deltaic Districts, the silt carried by the rivers is deposited in the river-beds and on their banks, which are thus gradually raised above the level of the surrounding country. Extensive swamps have in this way been formed between the Hooghly and the Dāmodar and between

the latter river and the Rūpnārāyan; the most important are the Dānkuni, Sānti, Khanyān, and Dalki marshes.

The surface is covered by recent alluvial deposits, consisting of sandy clay and sand along the course of the rivers, and fine silt consolidating into clay in the flatter parts of the river plain.

The greater part of the District is flat, with the usual aquatic and marsh weeds of the Bengal rice plain, such as *Hydrilla*, *Vallisneria*, *Aponogeton*, *Utricularia*, and *Caesulia*. The Goghāt *thāna*, though very little higher, is still sufficiently dry to have many of the species characteristic of the western Districts, such as *Evolvulus alsinoides*, *Tragus racemosus*, *Aristida Adscensciomis*, *Wendlandia exserta*, and *Gmelina arborea*. In the neighbourhood of villages and towns, shrubberies of semi-spontaneous growth and more or less useful species are to be found. The *pīpal* (*Ficus religiosa*) and the banyan (*Ficus indica*), with other species of figs, make up, along with bamboos, plantains (*Musa sapientum*), jack (*Artocarpus integrifolia*), red cotton-tree (*Bombax malabaricum*), mango (*Mangifera*), *Moringa*, and *Odina Wodier*, the arborescent part of these thickets, in which are often present the date-palm (*Phoenix sylvestris*) and toddy-palm (*Borassus flabellifer*). The District contains no forests.

Tigers are extremely rare, but leopards are found in the north, and wild hog abound in the Hooghly and Pandua *thānas*, where they do much damage to the crops.

The climate is damp and moist, but the rainfall is seldom excessive, the normal fall being 57 inches, of which 9·7 inches are received in June, 12 in July, 12·5 in August, and 8·1 in September. The DĀMODAR is peculiarly liable to sudden freshes, and floods were formerly common, especially in the south. In September, 1823, the Hooghly river rose to an unprecedented height; and in May, 1833, a very severe storm-wave and floods devastated Mandalghāt and the southern *parganas*. In August, 1844, the Dāmodar burst its banks and turned the whole country between Bāli Diwānganj and Dhaniākhāli into one vast sea of water; and in September, 1845, Mandalghāt and the south of the District were similarly inundated. Thanks to numerous embankments, floods are now of comparatively rare occurrence; but in the south the country is still liable to inundation, especially on the right side of the Dāmodar, over which the floods are allowed to spill in order to save the embankments on the left of its course.

History.

In the pre-Musalmān period Hooghly formed part of the Rārh and Suhmā divisions of Bengal, but the historical interest of the District dates from more recent times. The memories of many nations cluster round its principal towns, and many a village on the bank of the Hooghly is associated with some historical event. SĀTGAON, now a petty village, was the traditional

mercantile capital of Bengal in the days of Hindu rule, and in the early period of the Muhammadan supremacy was the seat of the governor of Lower Bengal. In the sixteenth century the channel of the Saraswatī river, on which Sātgaon is situated, began to silt up, and the principal stream of the Ganges gradually deserted this bed for the Hooghly, at that time a comparatively small river; Sātgaon became inaccessible to large vessels, and in 1537 the Portuguese settled at HOOGHLY TOWN. In 1632 this was captured by the Muhammadans, after a three and a half months' siege, and the seat of the royal port of Bengal was removed thither from Sātgaon with all the records and offices. The English factory at Hooghly dates from 1651; and it was here that the English first came into collision with the Muhammadan government in Bengal, with the result that Hooghly was abandoned for Calcutta in 1690. The Dutch established themselves at CHINSURA in the early part of the seventeenth century, and held it until it was ceded to Great Britain in 1825. CHANDERNAGORE became a French settlement in 1673, and, though more than once occupied by the English, is still a French possession. The Danes made a temporary settlement near the present site of Chandernagore towards the close of the seventeenth century. Their settlement at SERAMPORE, which dates from about 1676, was acquired by the English by purchase in 1845.

In 1759 Burdwān (which then included the present Hooghly District), Midnapore, and Chittagong were assigned to the East India Company by Mīr Kāsim for the support of troops to be kept up by the Company; and in 1765 the Mughal emperor invested the Company with the Dīwāni of Bengal. Hooghly was separated from Burdwān as a separate magisterial charge in 1795, and in 1819 it was constituted a separate revenue jurisdiction. Many changes have taken place in the area of Hooghly from time to time, owing to transfers to and from neighbouring Districts, the most important being the erection of HOWRAH into a separate magisterial charge in 1843.

Population.

The population of the District fell from 1,119,631 in 1872 to 974,992 in 1881, but rose again to 1,034,296 in 1891 and to 1,049,282 in 1901. The surface is but little above sea-level, and the drainage is deteriorating owing to the silting up of old streams and watercourses. The soil is waterlogged, and the District is consequently very unhealthy. About twenty years ago it suffered severely from the malignant Burdwān fever, and, though this has disappeared, fevers of a virulent type are still prevalent. Cholera has been bad in many years, and dysentery also claims its victims. The birth-rate is, outside Calcutta, the lowest in Bengal, and the increase in the population during the last decade is due to immigration.

The principal statistics of the Census of 1901 are shown below:—

Subdivision.	Area in square miles	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hooghly	442	2	942	308,715	698	– 0.3	30,680
Serampore	343	5	783	413,178	1,205	+ 3.3	46,629
Arāmbāgh	406	1	658	327,389	806	+ 0.8	34,321
District total	1,191	8	2,383	1,049,282	881	+ 1.4	111,630

The density of the population is greater than in any other District of Western Bengal, apart from Howrah. Except on the crowded high bank of the Hooghly, it is highest in the south and decreases towards the north and west, where alone it falls below the rate of 800 persons to the square mile. The only part of the District which showed any marked advance in the decade ending 1901 was the Serampore *thāna*, where the increase exceeded 17 per cent., the actual addition to its population being about the same as that for the District as a whole. Of the towns, HOOGHLY itself, including Chinsura, the head-quarters of the District, is decadent, but SERAMPORE, the industrial centre, and BHADRESWAR are growing rapidly; the other chief towns are UTTARPĀRA, BAIDYABĀTI, and BĀNSBĀRIA, all lying along the Hooghly, and ARĀMBĀGH, the head-quarters of the subdivision of the same name. There is a large immigration from the neighbouring Districts, especially from Bānkurā; and the mills attract numerous labourers from Bihār, the United Provinces, Chotā Nāgpur, and Cuttack. Oriyās are employed as domestic servants and *pālki*-bearers, while labourers from Chotā Nāgpur and Cuttack work in the brick-fields and elsewhere during the dry season. On the other hand, a large number of natives of the District find employment in Calcutta as petty shopkeepers and clerks. The vernacular spoken is the dialect known as Central Bengali. Hindus number 861,116, or 82 per cent. of the total, and Musalmāns 184,577, or 17.6 per cent., while of the remainder 2,766 are Animists and 759 Christians. The Muhammadans, who are chiefly Shaikhs, are found mostly in the head-quarters subdivision, where Hooghly and Pandua have long been centres of Muhammadan influence.

The most numerous Hindu castes are those of the semi-aboriginal Bāgdis (189,000), Kaibarttas, the great race-caste of Midnapore (157,000), Brāhmans (73,000), and Sadgops, formerly the dominant caste of Gopbhūm (59,000). Of the total population, 54 per cent. are supported by agriculture—an unusually small proportion for Bengal—

20 per cent. by industries, 2·5 per cent. by commerce, and 3·8 per cent. by the professions.

A Portuguese mission at Bāndel maintains a school attended by about 75 boys. The United Free Church Rural Mission possesses 2 mission schools and a zanāna mission house, in addition to 4 out-stations. A school, formerly a college, founded in 1812 by the famous missionaries, Marshman, Ward, and Carey, and a training school for native pastors of the Baptist Church are conducted by the Baptist Mission at Serampore.

Agriculture.

The alluvial soil is extremely fertile and produces good rice crops. A strip ten miles broad along the west bank of the Dāmodar receives the spill waters of that river, and but little rice can be grown on it; but it produces magnificent cold-season crops of mustard and pulses, and also fine sugar-cane. The chief agricultural statistics for 1903–4 are shown below, in square miles:—

Subdivision	Total	Cultivated	Cultivable waste	Irrigated from canals
Hooghly . . .	442	194	75	12
Serampore . . .	343	173	26	.
Arāmbāgh . .	406	183	63	..
Total	1,191	550	164	12

Rice is the principal crop, large quantities of the finer kinds are grown for the Calcutta market, while coarse rice is imported for local consumption. The winter harvest is the most important crop. Sugar-cane, jute, and betel-leaf (*Piper Betle*) are extensively grown, and the District is noted for its market gardens; potatoes, yams, cauliflowers, cabbages, and brinjāls (*Solanum melongena*) are grown in great quantities, especially in the Serampore subdivision, for sale in Calcutta.

During the last thirty years a series of drainage projects have been carried out to drain the numerous marshes; and the result has been to convert many square miles of marshy country into fertile plough land. Little advantage has been taken of the Land Improvement and Agriculturists' Loans Acts, the average sums advanced annually during the decade ending 1901–2 being only Rs. 2,500.

Pasturage is deficient, and the local cattle are poor and ill-fed. They graze on the stubble and, while the crops are on the ground, are stall fed with rice straw. Sheep are fattened for the Calcutta market, especially in the Pandua *thāna*.

The ordinary crops are irrigated only in seasons of drought; but potatoes, sugar-cane, and betel-leaf require plentiful irrigation, the water being lifted from the nearest river, *khāl*, or tank. Some irrigation takes place from the EDEN and MIDNAPORE Canals.

A valuable description of fine sand used for mortar is dug up from the old bed of the Saraswatī river at Magrā, and limestone is quarried in tracts bordering on Midnapore District.

Trade and communications.

In the early days of the East India Company, silk and cotton fabrics to the annual value of about 10 lakhs were woven; and though these industries have declined, they are still important, and superior cotton fabrics fetch high prices. Silk and *tasar* fabrics are manufactured in the Arāmbāgh subdivision, and silk handkerchiefs in Serampore town. The chief centres of the cotton-weaving industry are Serampore, Haripāl, and Khanyān, the weavers in Serampore and its neighbourhood using an improved handloom with a fly-shuttle. Silk and cotton cloths are dyed by the weaving classes, and at Serampore silks are dyed and colour-printed. Some *chikan* work (embroidery) is done in the Dhaniākhāli *thāna*. Gunny cloth is manufactured at Bālughāt, and jute and hemp rope at Chātra, Sankarpur, Nabagrām, and Khalsini. Castor and mustard oils are largely manufactured. Brass and bell-metal utensils are made in several places, especially in the neighbourhood of Bānsbāria and Kāmārpāra. A colony of carpenters near Chandernagore works for the Calcutta shops, and in the Goghāt *thāna* ebony-wood work is manufactured, the articles finding a ready sale in Calcutta and the neighbouring Districts. Baskets are made at Māyāpur, Bandipur, and Magrā, and good mats are woven at Serampore, Bandipur, Akri, and Borai. Common pottery-ware is made at Bhadreswar and Sukindā, and large quantities of bricks, tiles, and *surki* are manufactured, chiefly in the Serampore subdivision. A cotton-mill at Serampore employs 800 hands, while as many as 23,000 earn a livelihood in the jute-mills at Serampore, Rishrā, Chāmpdāni, Telinipāra, and Chandernagore. The Victoria Chemical Works at Konnagar produced in 1903–4 an out-turn of 900 tons of chemicals.

The chief exports are fine rice, pulses, silk, indigo, jute and hemp rope, cotton cloth, gunny-bags, bricks, tiles, and vegetables; and the chief imports are common rice, English piece-goods, twist and yarn, salt, lime from Burdwān and Sylhet, tobacco, coal, kerosene oil, *ghī*, spices, and timber. The principal marts are Seorāphulī, Magrā, Bhadreswar, and Bāli Dīwānganj, at all of which agricultural produce is collected for dispatch, chiefly to Calcutta. The hand-loom cotton fabrics are sold at Sālkhia Hāt in Howrah District. Most of the important trade centres have the advantage of excellent means of transport by rail, river, canal, and road. Pack-bullocks are largely used in Arāmbāgh.

The east of the District is well provided with railways. The East Indian Railway (broad gauge) runs through it for a distance of about 41 miles, with eighteen stations in the District. The Tārakeswar branch of this railway, 22 miles in length, accommodates the pilgrim

traffic to the famous temple of Tārakeswar. The Naihāti branch, leading to the Jubilee Bridge over the Hooghly, establishes communication with the Eastern Bengal State Railway. The Tārakeswar-Magrā Railway (2 feet 6 inches gauge) leaves the East Indian Railway at Magrā and joins the Tārakeswar branch at Tārakeswar; recently this line has been extended to Tribenī. The Howrah-Sheakhāla Steam Tramway (2 feet gauge) lies partly, and an extension of the Howrah-Amtā Light Railway (2 feet gauge) from Jagatballabhpur to Champādānga almost wholly, within the District. Other lines have been projected, including the Hooghly-Kātwa extension and the Burdwān-Howrah chord-line of the East Indian Railway, and the Bishnupur-Howrah chord-line of the Bengal Nāgpur Railway.

The grand trunk road from Calcutta crosses the Hooghly at Paltā and traverses the District for 37 miles, being joined at Ghireti by a branch from Sālkhia through Serampore; it is maintained by the District board, the expenditure being met from Provincial funds. There are in addition 506 miles of District roads, of which 78 are metalled, and 844 miles of village tracks. The old Benares road was formerly a military road, but it is now in a neglected condition, being annually flooded by the water of the Dāmodar. The road from Tribeni to Guptipāra formed the old through route from Calcutta to Nabadwip, Murshidābād, Rangpur, and Darjeeling. Other roads connect Chinsura with Dhanikhāli and Khānpur, Hooghly town with Majnān, Magrā with Khānpur, Pandua with Kālna, Bainchi with Dasgharā, Chandernagore with Bholā, Baidyabāti with Tārakeswar, Nabagrām with Chaspur, Arāmbāgh with Tetulmāri, Uchalan with Midnapore, and Māyāpur with Jagatpur, via Khānākul. The roads in the Arāmbāgh subdivision are mostly fair-weather tracks, barely passable by bullock-carts in the rains.

A daily service of steamers plies on the Hooghly between Calcutta and Kālna in Burdwān, calling at several places in Hooghly District for passengers and cargo.

The District is practically immune from famine; but in 1866 some relief measures were necessary, and in 1874 there was slight distress in the northern *thānas*.

Administration.

For administrative purposes the District is divided into three subdivisions, with head-quarters at CHINSURA, SERAMPORE, and ARĀMBĀGH. The Magistrate-Collector is also Collector of HOWRAH, which is subordinate to Hooghly for revenue purposes. He is assisted at head-quarters by a staff of one Joint-Magistrate and six Deputy-Magistrate-Collectors. The Serampore subdivision is in charge of a Joint-Magistrate, assisted by a Deputy-Magistrate-Collector and a Sub-Deputy-Collector. The subdivisional officer of Arāmbāgh is a Deputy-Magistrate-Collector, and

he has a Sub-Deputy-Collector subordinate to him. Chinsura is the head-quarters of the Commissioner of the Burdwān Division and of the District Civil Surgeon; a second Civil Surgeon is stationed at Serampore.

The District and Sessions Judge is also Judge of Howrah; subordinate to him for civil work are two Sub-Judges, a Small Cause Court Judge, and eight Munsifs, of whom two sit at Hooghly, three at Serampore, and three at Arāmbāgh. The Additional District and Sessions Judge of the Twenty-four Parganas is also Additional District and Sessions Judge of Hooghly. The criminal courts include those of the Sessions and Additional Sessions Judges, the District Magistrate, and the above-mentioned magistrates. With the exception of dacoity, the District is comparatively free from serious crime. The French settlement of Chandernagore used to be a centre for the smuggling of opium and spirits, but this illicit trade has now been checked.

The current land revenue demand, including that for Howrah, amounted in 1903-4 to 13·64 lakhs, payable by 4,229 estates. The greater portion of the District is permanently settled, and the total demand from other classes of estates is only Rs. 60,000. Owing to the close assessment at the time of the Permanent Settlement, the incidence of land revenue (which amounts to Rs. 3-0-8 per cultivated acre) is higher than in any other District in Bengal, except Burdwān, of which Hooghly at that time formed part. As in that District, *patnī* and *darpatnī* tenures are common. Rents are high and have risen of late years. First-class rice land, which was formerly rented for Rs. 11-4 an acre, now pays from Rs. 15-12 to Rs. 27, and the rent of inferior rice land has risen from between Rs. 5-10 and Rs. 6-12 to between Rs. 7-14 and Rs. 10-2 an acre. Mulberry and tobacco lands are rented at from Rs. 18 to Rs. 45 an acre, and sugar-cane land at from Rs. 18 to Rs. 36.

The following table shows the collections of land revenue and of total revenue (principal heads only), in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue	13,37*	14,29*	13,36*	13,83*
Total revenue	21,90	25,99	23,78	24,23

* Includes Howrah.

Outside the eight municipalities of HOOGHLY (with CHINSURA), SERAMPORE, UTTARPĀRA, BAIDYABĀTI, BHADRESWAR, KOTRANG, BĀNSBĀRIA, and ARĀMBĀGH, local affairs are managed by a District board, with subordinate local boards in each subdivision, besides five Union committees. In 1903-4 the total income of the District board was Rs. 1,48,000, of which Rs. 79,000 was derived from Provincial

rates; the expenditure amounted to Rs. 1,68,000, of which Rs. 98,000 was spent on public works. The Howrah-Sheakhāla Light Railway was constructed in 1897 under the auspices of the District board, which guarantees 4 per cent. on the capital and receives half the net profits above that sum. Under this agreement the District board paid Rs. 6,243 and Rs. 3,471 in 1896–7 and 1898–9 respectively; since that time the financial position has improved, and though the board has sometimes had to pay smaller sums, it has also occasionally received a share of the profits.

Embankments have been constructed along portions of the Dwārkeswar, Sankra, Rūpnārāyan, Dāmodar, Kāna Dāmodar, Kāna Nadī, and Saraswati rivers. The Dānkuni marsh was drained in 1873, and 20 square miles of almost valueless and very malarious country were thereby converted into fertile arable land. A small portion of the District is irrigated from the EDEN CANAL. The Hooghly is spanned at Naihāti by a large cantilever bridge, which was opened in 1887 (*see* HOOGHLY RIVER).

The District contains 13 police stations and 23 outposts. The force subordinate to the District Superintendent in 1903 consisted of 3 inspectors, 42 sub-inspectors, 67 head constables, and 699 constables. Chinsura is the head-quarters of a company of military police 100 strong, which is utilized, when necessary, to maintain order among the men working in the numerous mills on both banks of the Hooghly. There is one policeman to every 2·1 miles of area and to every 1,883 persons. The rural police consists of 276 *daffadārs* and 2,804 *chaukīdārs*. The District jail at Hooghly town can hold 437 prisoners, and sub-jails at Serampore and Arambāgh have a total accommodation for 43.

In 1901 the proportion of literate persons was 10·6 per cent. (19·7 males and 1·4 females). The proportion of literate females is higher than in any other part of Bengal except Calcutta. The total number of pupils under instruction was 53,956 in 1892–3 and 43,911 in 1900–1. In 1903–4, 43,667 boys and 3,549 girls were at school, being respectively 55·2 and 4·5 per cent. of the children of school-going age. The number of educational institutions, public and private, in the latter year was 1,469, including two Arts colleges, 97 secondary, 1,224 primary, and 145 special schools. The expenditure on education was 3·45 lakhs, of which Rs. 60,000 was met from Provincial funds, Rs. 42,000 from District funds, Rs. 5,000 from municipal funds, and 1·81 lakhs from fees. The principal educational institutions are in Hooghly town, but one of the Arts colleges is at UTTARPĀRA, where there is also a large public library given by Babu Jay Krishna Mukharjī, the founder of the college. Public libraries are likewise maintained at Hooghly town and Serampore.

In 1903 the District contained 13 dispensaries, of which 6 had a total accommodation for 131 in-patients; the cases of 71,000 out-patients and 2,111 in-patients were treated, and 5,308 operations were performed. The expenditure was Rs. 32,000, of which Rs. 4,000 was met from Government contributions, Rs. 16,000 from Local and Rs. 7,000 from municipal funds, and Rs. 4,000 from subscriptions. Besides these, there were in 1903 one police hospital and one railway hospital at Hooghly town, and sixteen private hospitals in the District.

Vaccination, which is compulsory within the municipal areas, is not making great progress in the District. In 1903–4 the number of persons successfully vaccinated was 25,000, representing 27 per 1,000 of the population.

[Sir W. W. Hunter, *Statistical Account of Bengal*, vol. iii (1876); G. Toynbee, *A Sketch of the Administration of the Hooghly District from* 1795 *to* 1845 (Calcutta, 1888); *Hooghly Medical Gazetteer*; and Lt.-Col. D. G. Crawford, I.M.S., *A Brief History of the Hooghly District* (Calcutta, 1903).]

Hooghly Subdivision.—Head-quarters subdivision of Hooghly District, Bengal, lying between 22° 52′ and 23° 14′ N. and 87° 58′ and 88° 30′ E., with an area of 442 square miles. The subdivision is a flat alluvial tract, intersected by numerous streams and containing a number of swampy depressions. The population in 1901 was 308,715, compared with 309,616 in 1891, the density being 698 persons per square mile. It contains two towns, HOOGHLY with CHINSURA (population, 29,383), its head-quarters, and BĀNSBĀRIA (6,473); and 942 villages. In addition to Hooghly and Chinsura, SĀTGAON, BĀNDEL, and PANDUA possess historical and TRIBENĪ some religious interest. MAGRĀ is an important mart.

Hooghly River.—The most westerly, and for commercial purposes the most important, channel by which the waters of the GANGES enter the Bay of Bengal, being formed by the confluence of the three western distributaries of the great stream—the BHĀGĪRATHI, JALANGĪ, and MĀTĀBHANGA—which are conjointly known as the NADIĀ RIVERS. The Bhāgīrathi receives also an independent supply of water from the eastern watershed of the Chotā Nāgpur plateau, where its tributaries drain an area of about 8,700 square miles. The Bhāgīrathi joins the Jalangī at Nadiā town, in 23° 25′ N. and 88° 24′ E., and the distinctive name of the Hooghly is by some assigned to the united rivers from this point; according to others the river does not take this name till just above Sāntipur, 24 miles farther down the stream. The united stream is joined by the Mātābhānga 15 miles below Santipur, and it thence proceeds almost due south to Calcutta; it next twists to the south-west, and finally turns south, entering the Bay of Bengal in 22° 13′ N. and 88° 4′ E. After receiving the Bāgher Khāl on the left

bank, it marks the boundary between the Twenty-four Parganas on the east and the Districts of Hooghly, Howrah, and Midnapore successively on the west, thus separating the Presidency and Burdwān Divisions.

The head-waters of the Hooghly are important as great highways for inland traffic. Like other deltaic distributaries, they are subject to sudden changes in their channels and to constant silting up; each of them is frequently closed during the dry season, while in most years the depth then maintained does not exceed 2 feet at the shallower places. During these dry months the waters of the Hooghly are largely supplied by underground infiltration of water into the deep trough which the river has scooped out for itself; and the depth of the channel is maintained by the scouring of the current during the rainy season, when the spill streams from the Ganges and the Chotā Nāgpur tributaries of the Bhāgīrathi pour down enormous masses of water. The fresh-water supply of the upper reaches of the river is therefore derived partly from the Ganges, partly from the Chotā Nāgpur plateau, and partly by infiltration; and it is estimated that these three sources provide, respectively, 48, 31, and 21 per cent. of the total supply. The strong freshes in the Hooghly have a most beneficial effect in scouring the channels, and it is noteworthy that the ratio of maximum to minimum fresh water discharge is as high as 13 to 1. The Hooghly receives four tributaries on the right bank. The DĀMODAR flows into it opposite Faltā, 35 miles below Calcutta, and 6 miles farther down it is joined by the RŪPNĀRĀYAN, the Haldī and Rasūlpur flow into the estuary of the river. All these tributaries drain the eastern flank of the Chotā Nāgpur plateau.

The influence of the tides is felt strongly as high up as Nadiā, especially during the dry season, and it is estimated that the tidal inflow during the four months of the hot season is more than double the total fresh-water discharge of the year. The tides operate usefully in dispersing the alluvium brought down from above, as well as in providing water for navigation over the shoals at high tide. The difference between the lowest depth of water in the dry season and the highest in the rains is no less than 20 feet 10 inches. The greatest mean rise of tide, about 16 feet, takes place in March, April, and May, with a declining range during the rainy season to a mean of 10 feet, and a minimum during freshes of 3 feet 6 inches.

The tide runs rapidly in the Hooghly, and produces a remarkable example of the fluvial phenomenon known as a 'bore.' This consists of the headwave of the advancing tide, hemmed in where the estuary narrows suddenly and often exceeding 7 feet in height. It is felt as high up as Calcutta, and frequently sinks small boats or dashes them to pieces on the bank.

Within historic times great changes have taken place in the course

of the Hooghly. There is good reason to believe that the BHĀGĪRATHI represents the old course of the main stream of the Ganges. It is still called the Ganges by the people along its banks and is held sacred. At Tribenī, on the right bank of the Hooghly, 36 miles above Calcutta, is the closed mouth of the old Saraswatī river, which formerly carried the main stream of the Ganges by a channel west of the modern Hooghly, which joined the present river at Sānkrail, 6 miles below Howrah. The course of this dead stream can still be traced by pools and marshes, and it was an important river as late as the fifteenth century. SĀTGAON, the Muhammadan royal port of Bengal, lay upon its bank a short distance inland from Tribenī, and was the traditional mercantile capital of Bengal from the Purānic age to the beginning of the sixteenth century, when the mouth of the Saraswatī had so far silted up that the Portuguese ships could no longer make use of it.

Another important change has taken place below Calcutta. At one time the Hooghly, instead of turning south-west at Calcutta, swung to the south-east near the exit of the present TOLLY'S NULLAH, and found its way into the Bay of Bengal near Sāgar Island. The old course can be traced in a series of pools and dips across the Twenty-four Parganas, which are still known as the Adi (or 'original') Ganges. The prehistoric shrine of Kālī Ghāt and other sacred places of Hinduism mark its course, and its banks still supply holy spots for the burning of the dead. In fact, it is not until the course of the Adi Gangā rejoins the present Hooghly that this river is again recognized as Mother Ganges and resumes its sanctity ; and Hindus who die below the point where the Adi Gangā left the Hooghly have for many generations been carried to the Hooghly above that point, or to the old banks of the Adi Gangā itself, for cremation.

The river may be divided into two sections : the first of 64 miles from Sāntipur to Calcutta, and the second of 80 miles from Calcutta to Sāgar Island, where it becomes an estuary.

A serious deterioration in the upper reaches of the Hooghly occurred during the eighteenth century, owing to an alteration in the course of the Dāmodar. This river originally joined the Hooghly at Nayā Sarai, 39 miles above Calcutta, and it brought down a great volume of water to assist in scouring the channel. Gradually, however, its floods worked a larger passage for themselves to the southward, and by 1770 it had forced an exit at its present mouth, 35 miles south of Calcutta. The result was that, during the eighteenth century, the Hooghly above Calcutta deteriorated, and shoals formed which rendered the ancient trading settlements no longer accessible to sea-going ships.

The section of the Hooghly above Calcutta has been famous for 600 years for its entrepôts for sea-going trade. HOOGHLY TOWN was founded by the Portuguese in 1537, after the Saraswatī river silted up

and prevented access to Sātgaon. The Portuguese were followed by the Dutch, who established their factory and port at CHINSURA, a mile lower down, in the seventeenth century. Still later in the middle of the eighteenth century, CHANDERNAGORE, 2 miles below Chinsura, which had been founded in 1673 as a small French settlement, rose to mercantile importance under Dupleix. The Ostend Company about 1723 fixed their Bengal port at Bānkibāzār, 5 miles below Chandernagore, but on the left bank of the river. The Danes in about 1676 had selected as their port SERAMPORE, 8 miles below Chandernagore, on the right bank of the river. All these ports and settlements lie at a distance of from 16 to 36 miles above Calcutta, and are now without exception inaccessible to sea-going ships, even of small tonnage.

The process of silting up was accelerated by the change in the Dāmodar channel above referred to. In 1757 Admiral Watson took his fleet, with his flagship of 64 guns, as high as Chandernagore for the bombardment of that town, and as late as 1821 the English pilots steered Danish ships of 700 to 800 tons up to Serampore. After 1825, however, this section of the river seems to have rapidly deteriorated, and the Dutch and Danish ships could go no higher than Cossipore, just above Calcutta, and were there unladen into cargo boats. Alluvial formations are still going on in the river bed from Serampore upwards. These formations are in many stages of growth, from the well-raised island with trees, down through successive phases of crop cultivation and reedy marshes, to shoals and little dots of dry land which only emerge above the water at certain seasons of the year. Below Calcutta changes in the channel are frequent and the rapid tides make navigation difficult. Lower down the estuary is notorious for its dangerous sandbanks, of which the best known are the Gasper and the Sāgar sands. These, however, as also the entrance channels, are continually changing, and a minute description of them would serve no useful purpose.

From time to time fears have been entertained with regard to the Hooghly approach to Calcutta; and in 1862 it was proposed to found a new port at PORT CANNING, 28 miles to the south-east, on the Mātla river, to anticipate the silting up of the Hooghly channels. Trade, however, has clung to the Hooghly. Port Canning proved a failure and has long been deserted; and a later proposal to build docks at Diamond Harbour as an auxiliary port for Calcutta was negatived, and there is no reason to believe that the navigable channels are at present deteriorating. The chief perils to navigation are the JAMES AND MARY SANDS and the Māyāpur bar. The dangerous shoal known as the James and Mary lies between the entrance of the Dāmodar and the Rūpnārāyan, and was early recognized as a danger to navigation. On September 24, 1694, the *Royal James and Mary* was lost on this shoal, to which she gave her name. Banks and shifting quicksands

are rapidly formed and the channels have to be continually watched and sounded, for if a vessel touches the sand, she is pushed over by the current; and cases are known in which only the yards of a great three-masted ship have remained above water within half an hour after the accident.

Direct efforts to control the channels across these shoals have not yielded favourable results. In 1868 experiments were conducted on the Māyāpur bar, and spurs were run out some distance below high water-line from both banks of the river; but they were found inadequate to guide the flood and ebb tide into one channel, and no improvement resulted. In 1896 an engineering expert, brought out to consider the feasibility of improving the river, suggested that training walls should be built to regulate the channels across the James and Mary and Māyāpur bars; but his recommendations were not considered practicable. A great deal has, however, been done of late years by the Port Commissioners to reduce the dangers of navigation. A scientific survey staff is employed, and the charts which they issue form a lasting and valuable record of the changes that take place. The Māyāpur and the James and Mary bars are sounded daily, the result being telegraphed to both Calcutta and Diamond Harbour for the information of inward or outward-bound pilots; and the height of the water on the bars is signalled from the bank, from the time vessels enter the river until they pass the last dangerous bar at Māyāpur. Much of the credit of maintaining and improving the Hooghly as a great waterway is due to the Calcutta pilots, one of the most highly skilled and best-paid pilot services in the world. Every incoming vessel is boarded from a pilot brig off the Sandheads at the mouth of the Hooghly, and remains in charge of the pilot till he makes over the ship to the harbour-master at Garden Reach on the southern limit of the Port of Calcutta. The result is that whereas, in the eighteenth century, ships of even 700 tons usually discharged their cargoes at Diamond Harbour, vessels drawing 28 feet are now piloted in safety up to Calcutta at favourable states of the tide. Great improvements have also been effected in the Port (*see* CALCUTTA). The Port Commissioners maintain a series of shelters or refuges along the east face of the Hooghly estuary and the adjoining Sundarbans, which are supplied with provisions and a few necessary tools for the use of shipwrecked mariners and are regularly inspected. The entrance of the river is protected against attack by forts at Calcutta, Faltā, and Chingri Khāl, which mount heavy guns.

The Hooghly is spanned at Naihāti by a fine cantilever bridge, consisting of two spans of 420 feet projecting from the banks, and a central span of 360 feet resting on piers of great strength in the middle of the river. The bridge links up the East Indian Railway system with the

Eastern Bengal State Railway and with the docks at Calcutta. Lower down Howrah is connected with Calcutta by a pontoon bridge, which was opened for traffic in 1874.

The railways have robbed the upper reaches of the Hooghly of much of their boat traffic, but quantities of straw and jute find their way by them to Calcutta. The river is, moreover, connected on its left or eastern bank by various tidal channels and creeks, known as the CALCUTTA AND EASTERN CANALS, with the eastern Districts, and thus forms the great waterway for boat and steamer traffic from Calcutta, through the Twenty-four Parganas and the Sundarbans, to Eastern Bengal and Assam. On the left bank lie Calcutta with its suburbs of GARDEN REACH and COSSIPORE-CHITPUR, and BARRACKPORE, NAIHATI, SANTIPUR, and NADIĀ farther up the river. On the right bank HOWRAH is the most important town, followed by Hooghly, Chinsura, Serampore, and the French settlement of Chandernagore.

The scenery on the banks of the Hooghly varies greatly. The sea approach is disappointing, and for many miles nothing can be seen but sandbanks, succeeded by mean looking mud formations covered with coarse grass and raised only a few inches above high tide. As the river narrows above the James and Mary Sands, however, the country is not so low, and grows richer. Trees and rice fields and villages become common, and at length a section is reached where the banks are high, and lined with hamlets buried under evergreen groves. The palm foliage and feathery bamboos now begin to assert themselves more and more strongly, and give a luxuriant tropical type to the landscape. When at length the Port of Calcutta is reached, a scene of unexpected magnificence, unrivalled in its kind, bursts upon the eye. The dense foliage of the Botanical Gardens, the long tiers of shipping, with the old houses of Garden Reach on the margin in the foreground, the Fort rising from the finely timbered plain on the bank higher up, and the domes, steeples, and noble public buildings of Calcutta beyond gradually unfold their beauties in a long panorama. The traveller really feels that he is approaching a City of Palaces.

Hooghly Town.—Head-quarters of Hooghly District, Bengal, situated in 22° 55′ N. and 88° 24′ E., on the right bank of the Hooghly river and on the East Indian Railway. Hooghly was founded by the Portuguese in 1537 on the decay of the royal port of SĀTGAON. At Gholghāt, close to the present Hooghly jail, the ruins are still visible of a fortress which formed the nucleus of the town and port of Hooghly. Exasperated by the havoc wrought by the Portuguese pirates at Chittagong, and in order to revenge himself for the Hooghly governor's refusal to assist him when he was in revolt against his father eight years previously, the emperor Shāh Jahān sent a Mughal force against the

town in 1632, which carried it by storm after a three and a half months' siege. Over 1,000 Portuguese were slaughtered, and more than 4,000 men, women, and children were made prisoners, and the place was then established as the royal port in lieu of Sātgaon. The Portuguese were allowed to return to Hooghly in 1633, the emperor making them a grant of 777 *bīghas* of land at BĀNDEL. The English factory at Hooghly dates from 1651, having been established under a *farmān* granted by the emperor to Dr. Boughton, a surgeon in the East India Company's service, who had cured his favourite daughter of a dangerous illness. In 1686 a dispute took place between the English factors at Hooghly and the Nawāb of Bengal, and a military force was dispatched from England to strengthen and protect the Company's factories there. An accident precipitated the rupture. In October, 1686, three English soldiers were set upon and beaten in the Hooghly bazar and taken to the governor's house. After some street fighting the battery and the governor's house were captured by the English, who subsequently withdrew under an armistice to Calcutta, or Sūtānuti as it was then called. This was the first collision between the English and the Muhammadan government in Bengal.

Hooghly was the head-quarters of the Burdwān Division from 1871 to 1875, and from 1879 to 1884 they were at its suburb, Chinsura; they were then moved to Burdwān, but were transferred to Chinsura in 1896. The place is now decadent and its population with that of Chinsura, with which it is incorporated as a municipality, has declined from 34,761 in 1872 to 29,383 in 1901. Hindus constitute 82·8 per cent. and Musalmāns 16·6 per cent. of the total. The municipality was created in 1865. The income during the decade ending 1901–2 averaged Rs. 50,000, and the expenditure Rs. 47,000. In 1903–4 the total income was Rs. 60,000, including Rs. 28,000 derived from a tax on houses and lands, Rs. 18,000 from a conservancy rate, Rs. 5,000 from a tax on vehicles, and Rs. 3,000 from tolls. The incidence of taxation was Rs. 1–13–10 per head of the population. In the same year the expenditure was Rs. 53,000, of which Rs. 4,000 was spent on lighting, Rs. 3,000 on drainage, Rs. 28,000 on conservancy, Rs. 5,000 on roads, and Rs. 900 on education. The municipality maintains 51 miles of metalled and 76 miles of unmetalled roads. The grand trunk road, which passes through the town, and a few short lengths of road in the old cantonment are kept up by Government. The Imāmbāra is a Shiah mosque, which was completed in 1861 at a cost of 2·2 lakhs from funds bequeathed by a wealthy Shiah nobleman, Muhammad Mohsin. The other principal buildings are the municipal office and jail; the latter has accommodation for 437 prisoners, who are chiefly employed on bag-sewing for the neighbouring jute-mills and oil-pressing. The chief educational institutions are the Hooghly College at CHINSURA,

possessing a branch in Hooghly itself, a training college for schoolmasters, and the Madrasa.

Hopong (Burmese, *Hopon*).—A small State in the central division of the Southern Shan States, Burma, lying between 20° 38′ and 20° 59′ N. and 97° 6′ and 97° 23′ E., with an area (including its small northern dependency of Hailong) of 232 square miles. It is bounded on the north by Lawksawk and Laihsak; on the east by Mongpawn; on the south by Namhkok; and on the west by Yawnghwe, from which it is separated by the Tamhpak stream. Towards the north and east the country is extremely hilly, but a considerable area of irrigated rice land lies in the valleys. *Taungya* rice is worked by the Taungthus, and vegetables, tobacco, and *thanatpet* are cultivated. The population in 1901 was 11,140, distributed in 177 villages. The people are nearly all Buddhists, and according to language were divided into 7,123 Taungthus, 3,775 Shans (inhabiting the plains), and 242 speakers of other languages. The head-quarters of the Myoza are at Hopong (population, 765), on the banks of a small stream called the Namkyeng, and connected by road with Taunggyi. The revenue in 1903-4 amounted to Rs. 14,000 (mainly *thathameda*); the chief items of expenditure were Rs. 6,000 tribute to the British Government, Rs. 3,600 spent on pay of officials and general administration, Rs. 2,600 on public works, and Rs. 1,800 paid into the privy purse.

Horsleykonda ('Horsley's hill,' so named from Mr. W. D. Horsley, a former Collector, who was the first to build on it, about 1870).—A small hill in the Madanapalle *tāluk* of Cuddapah District, Madras, situated in 13° 39′ N. and 78° 25′ E., about 9 miles from Madanapalle. The original name of the hill was Yenuga-Mallammakonda, and local tradition says that it was so called because in olden days a saintly lady named Mallamma lived on the top of it and was regularly fed by elephants (*yenugulu*). The hill differs from the rest of those in the upland *tāluks* of Cuddapah in that its summit, about 4,100 feet above the sea, is covered with vegetation and is not quite bare, as usual. Here there is a pretty valley full of trees, on one side of which are three bungalows belonging to the Forest department and the missionaries of the District. The climate is delightful, being free from fever and eighteen degrees cooler than the low country round Cuddapah town. The hill was for a long time supposed to be haunted by demons; and when building on it was first begun, it was with the greatest difficulty that workmen could be persuaded to go up. *Sāmbar*, hog, bears, and jungle-fowl are found in its ravines, and an occasional tiger visits it.

Hosangadi.—Village in the Coondapoor *tāluk* of South Kanara District, Madras, situated in 13° 40′ N. and 74° 58′ E., at the foot of

a pass leading into Mysore. General Mathews won a brilliant victory here in January, 1783, on his march from Coondapoor to Bednūr, his small force storming a formidable series of defences held by 17,000 men. Remains of the defences, once known as Haidargarh, can still be seen.

Hosdurga.—South-western *tāluk* since 1902 (previously a sub-*tāluk* of Holalkere) of Chitaldroog District, Mysore, lying between 13° 35′ and 14° 5′ N. and 76° 6′ and 76° 34′ E., with an area of 567 square miles. The population in 1903 was 45,032. The *tāluk* contains one town, Hosdurga (population, 2,263), the head-quarters; and 252 villages. The land revenue demand in 1903–4 was Rs. 72,000. The Vedāvati flows through the middle of the *tāluk*, with a north-easterly course, forming on the eastern border the great Māri Kanave reservoir. The Chiknāyakanhalli auriferous band of hills runs through the east. Hosdurga (3,226 feet), in the centre of the *tāluk*, is the principal hill.

Hoshangābād District.—District in the Nerbudda Division of the Central Provinces, lying between 21° 53′ and 22° 59′ N. and 76° 47′ and 78° 44′ E., with an area of 3,676 square miles. It is bounded on the north by the Native States of Bhopāl and Indore; on the east by Narsinghpur; on the west by Nimār; while the southern border marches with Chhindwāra, Betūl, and Berār. The District consists of a long narrow strip forming the lower portion of the Narbadā valley, with sections of the Sātpurā hill country on the southern border. The Narbadā is the northern boundary of the District and of the Central Provinces along its whole length in Hoshangābād, running from a little north of east to south of west; and the District extends along its southern bank for a length of over 120 miles, while its width varies from 22 to 40 miles. North of the Narbadā lie the Vindhyan mountains, in places seen only as a far-off outline, with the plains of Bhopāl or Indore spread out below, in other places running in and following the line of the river, the water of which washes their base for miles. In these spots outlying spurs and hills are generally found on the southern side. One such spur, known as the Black Rocks, crops up close to Hoshangābād and supplies the town with building and paving stone. With the exception of these outliers, the portion of the District adjoining the Narbadā consists of an open black-soil plain of great fertility. In the south the Sātpurās generally run in successive ranges parallel to the line of the valley and trending to the south-west. The portions included in the District consist of the block of the Pachmarhī or Mahādeo hills in the south-east, a low outer range of the Sātpurās running through the Hoshangābād and Hardā *tahsīls* with the valley of the Denwā behind it in the centre, and another wild tract of hill and forest on the south-west called Kālībhīt [1], which extends to the Tāpti on the border

Physical aspects.

[1] Transferred to Nimār District in 1904.

of Berār. Most of the peaks of the Sātpurās rise to about 2,000 feet, or a little over, but in the Mahādeo hills there are three with an elevation of over 4,000 feet. Hoshangābād town is 1,011 feet above the sea, and the fall of the Narbadā in this part of its course is rather less than 3 feet in a mile. From the Sātpurās numerous streams run down through the valley to the Narbadā, having in the east, where the slope of the valley is rapid and direct, a very straight course and a length of only about 24 miles from the base of the hills to their confluence, while in the west they make a circular sweep and usually flow for about 40 miles through the plain. The principal of these streams are the Dudhī on the east, dividing Hoshangābād from Narsinghpur, the Tawā flowing through the Hoshangābād *tahsīl*, the Ganjāl separating Seonī-Mālwa and Hardā, and the Machak on the west. These bring down with them large quantities of sand in their floods, which are very high and rapid, and deposit it on the banks, causing deterioration in the soil to a considerable distance. Where two or three rivers escaping separately from the hills draw close together, the whole of the land enclosed between them is generally poor soil overrun with jungle. Notable instances of this are to be seen in the system of rivers which unite near Sohāgpur, and those which join the Indrā east of Seonī, in both of which cases a large belt of forest reaches nearly down to the Narbadā.

The plain portion of the District is covered by alluvial soil, consisting of a stiff reddish, yellowish, or brownish clay, with numerous intercalated bands of sand and gravel. *Kankar* abounds throughout the deposit, and pisolitic iron granules are of frequent occurrence. The thickness of the alluvial deposits, as exposed along the banks of rivers, usually does not exceed a maximum of 100 feet. In the west, rocks belonging to the transition system, consisting of quartzite, hornstone-breccia, and limestone, occur near Handiā. The hilly tract to the south, embracing the Pachmarhi or Mahādeo hills, forms part of the great Gondwāna system. At the base of it occurs the Tālcher group, consisting mainly of greenish silt beds, breaking up into small splintering fragments and hence called needle shales, and green, brown, or whitish felspathic sandstones, in both of which pebbles and large boulders are often irregularly scattered. The Tālchers are overlaid by the Dāmuda series, which is made up chiefly of thick-bedded, often coarse felspathic sandstones, with subordinate beds of carbonaceous shale and coal.

The Government forests cover the hills on the southern border and also extend into the plain, especially along the banks of the rivers in the eastern tract. Almost pure teak forest is found on the alluvial flats along the rivers, and on red stony soil on the lower hill-sides. Mixed forest of *sāj* (*Terminalia tomentosa*), teak, *dhaurā* (*Anogeissus latifolia*), *haldu* (*Adina cordifolia*), *tinsā* (*Ougeinia dalbergioides*), and *bījāsāl*

(*Pterocarpus Marsupium*) occurs on the middle and lower slopes of the hill belt. On the dry stony hill-tops and plateaux, more especially those of sandstone formation, *salai* (*Boswellia serrata*) is predominant, with stunted trees of other species, mainly *khair* (*Acacia Catechu*) and *lendiā* (*Lagerstroemia parviflora*). *Sāl* (*Shorea robusta*) is found on the Pachmarhī plateau, and *anjan* (*Hardwickia binata*) appears in the Denwā forests of the Sohāgpur range, but does not attain any size.

The forests are fairly well stocked with game, including bison in the Borī and Rājāborāri tracts, and tigers, leopards, and the usual kinds of deer over most of the wooded area. Antelope are plentiful in the open country. Of birds, peafowl are the most numerous, and the other land game-birds are also common, but duck and snipe are found only in scattered localities. Mahseer may be had in the rivers.

Rainfall is registered at the four *tahsīl* head-quarters and at Pachmarhi. The annual fall at Hoshangābād town is 50 inches, and this may probably be taken as representing the average for the plain. In the hills the rainfall is much heavier. Until within recent years the District has very rarely suffered from marked deficiency of rain. Thunderstorms occur with comparative frequency in the hot season. Hail is not uncommon and is much dreaded, but dust-storms are unknown. The climate is on the whole healthy. The cold season is characterized by bright cloudless days and cold nights with piercing winds; frost is known, but water never freezes. The summer months are hot and dry, and during the rains the weather is somewhat steamy and oppressive, especially in the town of Hoshangābād.

History.

Little is known of the history of the District before the Marāthā invasion. The town of Hoshangābād is believed to take its name from Sultān Hoshang Shāh Ghorī, the second of the Mālwā kings, who reigned from 1405 to 1434. Hoshang Shāh may have passed through Hoshangābād on his way to Kherlā in Betūl, the head-quarters of a Gond dynasty, which he is said by Firishta to have reduced in 1433. In Akbar's time Handiā was the head-quarters of a *sarkār*, and was occupied by a *Faujdār* and *Dīwān* and by Mughal troops. Seonī was attached to Bhopāl, and Hoshangābād is not mentioned at all. Several reasons point to the conclusion that the eastern part of the District was never conquered by the Muhammadans, but was thought too wild and valueless to wrest from the Gonds who occupied it. On the decay of the Mughal empire the District again reverted to the Gonds, who were probably its original masters. In the early part of the eighteenth century the eastern portion of the Rajwāra *pargana* was ruled by four Gond Rājās of Sobhāpur and Fatehpur, who were feudatories of the Mandlā kingdom. The centre formed part of the territories of the Deogarh dynasty, and in

the west were the petty chiefs of Makrai and Maklā. About 1720 Dost Muhammad, the founder of the Bhopāl family, took Hoshangābād town and annexed a considerable territory with it. In 1742 the Peshwā Bālājī Bājī Rao passed up the valley on his way to attack Mandlā and subdued the Handiā *pargana*. Eight years later Raghujī Bhonsla of Nāgpur overran the whole range of hills from Gāwīlgarh to Mahādeo, and reduced the country east of Handiā and south of the Narbadā except the portion held by Bhopāl. Hostilities between the Bhopāl and Nāgpur rulers commenced in 1795 and lasted with little intermission for twenty years. Hoshangābād was in that year taken by the Nāgpur troops, but was retaken in 1802 by Wazīr Muhammad, the celebrated minister of Bhopāl. The Bhopāl dominions north of the Narbadā were finally lost to the Marāthās in 1808. During these wars the Pindāris, first summoned by Wazīr Muhammad to his assistance, but afterwards deserting to his enemies, plundered the country impartially in all directions. It is estimated that not a single village escaped being burnt once or twice during the fifteen years for which their depredations lasted, and the greater part of the District was entirely depopulated. The Pindāris were extirpated in 1817; and in 1818 the portions of the District belonging to the Nāgpur kingdom were ceded, under an agreement subsequently confirmed by the treaty of 1826. In 1844 the Hardā-Handiā tract was made over by Sindhia in part payment for the Gwalior Contingent, and in 1860 it was permanently transferred and became British territory. The Mutiny of 1857 disturbed the District very little. There was some trouble with the police at Hardā, a petty chief rebelled in the Mahādeo hills, and Tāntiā Topī crossed the valley in 1858; but the authority of the British officers was at no time seriously shaken. The small Feudatory State of MAKRAI lies in the centre of the Hardā *tahsīl*.

The archaeological remains are unimportant. The island of Jogā, picturesquely situated in the Narbadā near Handiā, has a fort and is supposed to be the site of an old cantonment, remains of masonry wells and buildings being found. At Khatāma, ten miles from the Itārsi railway station, there is a cave dedicated to Mahādeo, consisting of a plain rectangular room with an enclosed shrine, the front of the cave being supported by four pillars. Bāgra contains an old fort ascribed to Hoshang Shāh Ghorī.

Population.

The population of the District at the last three enumerations was as follows: (1881) 467,191; (1891) 497,487; and (1901) 449,165. Up to 1891 development was rapid in the eastern portion of the District, where large tracts of land had long been out of cultivation, but slower in the western *tahsīls*, which were already fully populated. In 1896 a strip of territory on the east of the Hardā *tahsīl*, 572 square miles in area and containing 32,458 persons,

was transferred to Nimār, and the figures of previous enumerations have been adjusted to allow for this[1]. The decrease of population in the present area of Hoshangābād, during the last decade, was at the rate of nearly 10 per cent., and the District suffered from partial or total failures of crops in six years of the decade. The District contains six towns—HARDĀ, HOSHANGĀBĀD, SEONĪ-MĀLWĀ, SOHĀGPUR, ITĀRSI, and PACHMARHĪ—and 1,334 inhabited villages. The chief statistics of population according to the Census of 1901 are shown below:—

Tahsīl.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Hoshangābād	804	2	309	125,071	156	− 9·2	5,746
Hardā	1,139	1	400	128,858	113	− 10·5	6,694
Sohāgpur	1,243	2	429	125,863	101	− 9·6	5,139
Seonī-Mālwā	490	1	196	66,793	136	− 12·0	2,789
District total	3,676	6	1,334	446,585	121	− 9·8	20,368

The figures for religion show that 84 per cent. of the population are Hindus, nearly 11 per cent. Animists, and 5 per cent. Muhammadans. Of the 22,000 Muhammadans, nearly half live in towns. The majority of the population speak the Bundelī dialect of Western Hindī, but in the Hardā *tahsīl* the language presents some features of difference and is allied to the Mālwī dialect of Rājputāna. About half the Gonds and Korkūs are shown as having abandoned their own languages.

These tribes are fairly strongly represented in the population, Gonds numbering nearly 49,000, or 11 per cent., and Korkūs 22,500, or 5 per cent. The most important landholders are the Brāhmans (34,000), who include families from both Hindustān and the Deccan, and also the local subdivision of Nāramdeo or Narbadā Brāhmans, who are priests of the various sacred places on the Narbadā and in villages, and also to a large extent *patwāris* or village accountants. The important cultivating castes are Rājputs (28,000), Gūjars (22,000), and Raghuvansis (7,000). Most of the Rājputs are Jādons or Jaduvansis of very impure descent. Jāts, who have immigrated from Northern India, number 5,000. The menial and labouring classes are the Chamārs (20,000), Balāhis (15,000), Mehrās (12,000), and Katiās (10,000).

[1] In 1904, 38 villages with an area of 51 square miles and a population of 2,580 persons were transferred from the Hardā *tahsīl* to Nimār District, and also 293 square miles of the Kālībhīt 'reserved' forest. The adjusted District figures of area and population are 3,676 square miles and 446,585 persons.

About 61 per cent. of the whole population are returned as dependent on agriculture.

Christians number 2,706, of whom 2,301 are natives. The Friends Foreign Mission Association has stations at five places in the District, with a European staff numbering 36 members. Its converts number 1,200. Altogether 13 schools and 4 dispensaries have been established by this body; and in their workshops at Rasuliā near Hoshangābād, and at Lehī near Seonī, numerous trades are taught. The Foreign Christian Missionary Society has stations at Hardā and Timurnī, and supports a high school and middle school at the former place, besides two dispensaries and a leper asylum.

Agriculture.

The prevailing soil of the District is the rich black alluvial loam of great depth and fertility which is characteristic of the Narbadā valley. The average depth is estimated at 10 feet, but in many places it exceeds 30 feet. Inferior soil is usually met with in undulating fields which have been denuded of the finer particles by scouring, or where the black soil is mixed with limestone pebbles or sand. A variety of sandy soil called *sihār*, which is formed from sandstone rock, produces only autumn crops, but responds to irrigation. The black soil of the Hardā and Seonī-Mālwā *tahsīls* is the most fertile, and that of Sohāgpur the least, being especially subject to deterioration by the action of the numerous rivers which intersect the *tahsīl*, and wash down sandy deposits from the hills. A small area of first-rate land round Pachlaorā and Sobhāpur must, however, be excepted. *Sihār* or regular sandy soil is also more common here than elsewhere. In the whole District the different kinds of black soil cover about 88 per cent. and sandy soil about 12 per cent. of the cultivated area. Wheat is generally grown in unembanked fields and without manure or rotation. When a field shows signs of exhaustion, gram is sown for a year or two, as this crop exercises a recuperative effect on the soil. As a rule autumn crops are grown only on the inferior soils, which will not support spring-crop grains; but the case of *jowār*, which is now sown on black soil, is an exception to this.

[1] Of the whole area of the District, 173 square miles are comprised in estates held on *jāgīrdāri* tenure; 73 square miles, formerly Government forest, are in process of settlement on the *ryotwāri* system; and 103 square miles are held wholly or partially free of revenue from Government. An area of 22 square miles has been sold outright under the Waste Land Rules. The remaining area is held on the ordinary

[1] The agricultural statistics in this paragraph relate to the year 1903-4. In 1904 the area of Government forest was reduced to 922 square miles by transfer of the Kālībhīt tract. In the statistics, 96 square miles of waste land which have not been cadastrally surveyed are excluded from the total area of the District.

mālguzāri tenure. The principal statistics of cultivation in 1903-4 are shown below, in square miles :—

Tahsil.	Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Hoshangābād .	804	355	1	277	84
Hardā . . .	1,139	521	1	315	279
Sohāgpur . .	1,243	397	1	347	433
Seonī-Mālwā .	490	232	...	138	126
Total	3,676	1,505	3	1,077	922

Practically all the available land in the open country has been brought under the plough, and with the exception of a few isolated tracts there is little scope for extension of cultivation. A considerable quantity of land is under new and old fallow, the proportion amounting normally to about a fifth of the area occupied, and at present, owing to agricultural depression, to nearly 27 per cent. Fields are frequently, however, left fallow for the purpose of affording grazing to cattle. Wheat is the staple crop, with an area of 689 square miles, or 49 per cent. of the cropped area, while the crops next in importance are gram covering 200 square miles, *jowār* 56, *til* 79, and the small millets *kodon* and *kutkī* 94. The severe disasters which have befallen the wheat crop, and the greater expense of its cultivation in view of the impoverished condition of the cultivators, have caused a decrease in the area under wheat. Only about 20 square miles are normally double cropped, the usual method being to get a catch-crop of pulse from an embanked wheat-field during the monsoon season. The betel-vine gardens of Sohāgpur deserve mention. The leaf grown here has a good reputation and is sent outside the District.

The principal agricultural improvement is the embankment of fields for wheat. Some embankments have been made experimentally by Government, and a few leading landowners have adopted this method. The cultivation of cotton has increased in recent years. An agricultural farm has been started at Hoshangābād, for the demonstration of improved methods of wheat cultivation. An American winnowing machine has been introduced, and several have been sold to the cultivators. During the ten years following 1894 about Rs. 28,000 was borrowed under the Land Improvement Loans Act, and 3·75 lakhs under the Agriculturists' Loans Act.

The cattle used in the District are to a large extent imported from the Native States of Indore, Gwalior, and Narsinghgarh, which occupy the Mālwā plateau. The fair of Sānkha in Narsinghgarh is the great market at which they are purchased, and they are commonly known as Sānkha bullocks. They are large, strong, and sluggish, and generally white in colour. Cattle are also brought to a less extent

from Nimār, this breed being preferred for use in carts as they are light and active. The cattle bred in Hoshangābād itself are inferior to those imported. Buffaloes are not used for cultivation, but those agriculturists who can afford it keep buffalo cows for the production of *ghi*, which is an article of export. A Government cattle farm has recently been opened at Hoshangābād. The number of ponies has diminished in recent years.

The area irrigated from tanks is insignificant, consisting in 1903–4 of little more than 2,000 acres, which are mainly under vegetables and garden crops. In 1899–1900 it rose to 4,000 acres. A few hundred acres of wheat are also irrigated by means of wells. It is believed that the application of well-irrigation to wheat might be profitably extended. The practice of embanking wheat-fields, which may be considered a method of irrigation, is also growing; and though the crop in an embanked field is more liable to rust, this disadvantage is held to be more than counterbalanced by the increased out-turn, the saving in seed, and the greater facility of cultivation. The scope for tank-irrigation is limited.

Forests.

Government forests in 1903–4 covered 922 square miles, or 25 per cent. of the total area of the District. The forests are found almost entirely on the undulating and hilly country of the Sātpurās, which bounds the Narbadā valley to the south. Situated at heights ranging from 1,200 to 4,000 feet above the sea, the character of the forests varies with both the elevation and the nature of the soil. On the dry rocky peaks and plateaux, especially when of sandstone formation, the principal species is *salai* (*Boswellia serrata*), mixed with stunted growths of other species. The middle and lower slopes of the hill belt form stretches of flat and undulating land fit for cultivation, alternating with mixed forest, the principal trees of which are teak and *sāj* (*Terminalia tomentosa*), with other less valuable species. These forests contain frequent patches of grass land without trees, owing to the former practice of *barrā* or shifting cultivation and unrestricted fellings. Lastly, on the alluvial flats along rivers or on patches of red stony soil in the plains there is almost pure teak forest. Bamboos are fairly plentiful. The local consumption of forest produce comprises principally firewood, inferior timber, bamboos, and grass, while the exports consist of teak poles and scantlings, and bamboos. The demand is principally from Khāndesh and Berār. The forest revenue in 1903–4 was Rs. 74,000, of which Rs. 28,000 was realized from sales of timber, Rs. 7,400 from fuel, and Rs. 14,000 from grass.

No mines are worked in Hoshangābād. Argentiferous galena occurs at Jogā, and some old mines known locally as Chāndi-katān are still to be seen there. The excavations are in two parallel lines on a band

of transition limestone. Silver exists in the galena to the extent of 21 ounces to the ton. At Bāgra an attempt was made to mine lead some years ago, but the metal was not found in sufficient quantities to make the undertaking profitable. Good red and white building stone is obtained near Hoshangābād town and Dhāndīwāra, and is exported and sold to railway companies.

Most of the cloth worn in the District is still woven locally, though mill-spun thread is solely used. The principal centres are Sobhāpur and Nāharkolā. *Tasar* silk was formerly woven at Sohāgpur, but the industry is now extinct. There is a considerable dyeing industry at Sohāgpur, the water of the river Palakmāti, which flows by the town, being considered to have special qualities. Foreign dyes have now supplanted the indigenous madder and safflower. Considerable quantities of cloth are imported from the mills and dyed locally. Indigo from Northern India is also used, and castor oil is brought from Ahmadābād for use in dyeing. Brass-working is carried on at Hoshangābād, Handiā, and Bābai. Ornamental iron betel-nut cutters made at Timurnī are exported to other Districts. Bamboo walking-sticks are made at Hoshangābād. One cotton-ginning factory and three ginning and pressing factories are working at Hardā, all of which have been opened since 1899. The four factories contain 136 gins and three presses, and the amount of capital invested in them is 3·15 lakhs. Nearly 500 operatives are employed.

Trade and communications.

Wheat, *til*, linseed, and cotton are the staple exports of agricultural produce, and teak and other timber and myrabolams of forest produce. The exports of wheat have largely declined in recent years. The teak of Rājāborāri and Borī is the best in the Central Provinces. *Ghī* is also exported to a considerable extent. Among minor articles are honey from the Pachmarhī hills, building and paving stone, brass vessels from Handiā, and bamboo walking-sticks from Hoshangābād. *Mahuā* is sent to Khandwā for the manufacture of country liquor. Salt comes from Ahmadābād and in small quantities from the Sāmbhar Lake, sugar from Mirzāpur and the Mauritius, *gur* from Betūl and Berār, tobacco from Muzaffarpur, and rice from Chhattīsgarh, as the quantity grown locally is insufficient for consumption. Itārsi, Bābai, Handiā, Sobhāpur, and Bankheri are the chief weekly markets. Rahatgaon is a special market for timber.

The Great Indian Peninsula Railway traverses the entire length of the District from west to east, with a length of 122 miles and 22 stations within its limits. At Itārsi the Indian Midland section branches off to the north and passes Hoshangābād town. Owing to its long narrow shape, nearly the whole District is thus within twenty miles of a railway. The principal trade routes are the Itārsi-Betūl,

Hardā-Handiā, Hardā-Betūl, Pipariā-Chhindwāra, and Pipariā-Sandiā roads. The District has 120 miles of metalled and 225 miles of unmetalled roads, and the annual expenditure on maintenance is Rs. 52,000. The Public Works department has charge of 177 miles of the most important roads, and the District council of the remainder. There are avenues of trees on 96 miles.

Famine.

Up to 1892 it was recorded that the agricultural population had been severely distressed in only six out of the preceding 220 years. On three of these occasions the distress was due wholly, and on one occasion partially, to political disturbances and the incursions of the Pindāris; while in the remaining two years, 1832 and 1888, the wheat crop was blighted by excessive rain. In spite of the abnormally small rainfall in 1868–9 there was no famine, the late rain in September and the capacity of the black cotton soil to retain moisture giving a fair wheat harvest. It is a local saying that the District is under the special protection of Mahādeo and may suffer from excess, but never from deficiency, of rainfall. In 1894 and 1895 untimely rain in the autumn and cold season produced rust in the wheat, and the harvests were very poor. The rains of 1895 stopped prematurely, and the spring crops were poor; and this was followed in 1896 by a cessation of the monsoon at the end of August, and an out-turn of only one-third of the normal. Famine conditions prevailed from November, 1896, to December, 1897, 69,000 persons, or 14 per cent. of the population, being in receipt of assistance in April and the whole expenditure amounting to 16 lakhs. In 1899–1900 the monsoon again failed completely, and both harvests were destroyed. There was severe famine throughout 1900, the numbers in receipt of assistance rising in July to 118,000 persons, or nearly 24 per cent. of the population, and the total expenditure being 20 lakhs. The railway embankment was doubled along a certain length, and several useful feeder roads were constructed.

Administration.

The Deputy-Commissioner has a staff of four executive Assistant or Extra-Assistant Commissioners. For administrative purposes the District is divided into four *tahsīls*, each of which has a *tahsīldār* and a *naib-tahsīldār*. The Hardā and Seonī Mālwā *tahsīls* form a subdivision with a Subdivisional officer residing at Hardā, while Pachmarhī has a *tahsīldār* and a Cantonment Magistrate. The Forest officer belongs to the Imperial Service, and the Executive Engineer of the Hoshangābād division, comprising the Hoshangābād, Nimār, and Betūl Districts, is stationed at Hoshangābād town.

The civil judicial staff consists of a District and three Subordinate Judges, and a Munsif at each *tahsīl*. The Divisional and Sessions Judge of the Nerbudda Division has jurisdiction in Hoshangābād.

Litigation is heavy, and at present consists almost entirely of suits for the recovery of loans on the security of valuables or immovable property. The District is almost free from professional criminals, but owing to its proximity to Native States is liable to raids by gangs of dacoits. Opium smuggling over the long border is also very common and rarely detected. Cases of cattle-lifting are not infrequent.

During the early period of our administration the District did not include Hardā. Several short-term settlements followed on the cession in 1818, which in Hoshangābād, as in the other northern Districts, were characterized by the mistake of over-assessment. After successive reductions of the revenue a twenty years' settlement was made by Major Ouseley in 1836, at which a moderate demand was fixed, the share of the Government being 66 per cent. of the 'assets.' On the expiration of the twenty years, a survey of the District preparatory to resettlement was begun in 1855, but operations had to be suspended on the outbreak of the Mutiny. The settlement was completed in 1865, being made by Mr. (now Sir Charles A.) Elliott, whose Report is one of the most interesting works relating to the Central Provinces. The revenue payable by the District, including Hardā, before resettlement, was 3 lakhs, which was raised to 4.24 lakhs, or by 37 per cent., the period of the settlement being thirty years. On this occasion proprietary rights were conferred on the village headmen. During the currency of the settlement the general wealth and prosperity of the people increased very largely. Shortly after its conclusion the opening of the railway brought all parts of the District within easy distance of a market for their produce. Prices rose with a bound and the seasons were almost uniformly favourable. At the expiry of the thirty years the area under cultivation had increased by 38 per cent., the prices of grain had risen by 75 to 100 per cent., and the total rental of the tenants had been raised by the landowners by nearly 5 lakhs. The District was resettled between 1892 and 1896, the result being to increase the revenue by 3.68 lakhs, or 78 per cent. on the previous demand. For some years before and after the new settlement came into force the District was visited by a succession of failures of the valuable spring crops, on which its prosperity depends. The circumstances of the people were in consequence entirely altered, and while there has been a large decrease in the quantity and deterioration in the value of the crops sown, the cultivators have become involved in debt. Substantial relief was accordingly given, by the reduction of the revenue demand by 2.19 lakhs for a period of three years from 1901-2, and by Rs. 82,000 for the full period of settlement. The term of the new settlement is from twelve to fourteen years in different areas, a shorter period than twenty years having been adopted, in order to produce a regular rotation of District settlements.

The receipts of land revenue and total revenue are shown below, in thousands of rupees :—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	4,40	4,96	4,70	6,85
Total revenue . .	8,26	11,10	8,80	10,91

The management of local affairs, outside municipal areas, is entrusted to a District council and four local boards, each having jurisdiction over one *tahsīl*. The income of the District council in 1903–4 was Rs. 78,000, while the expenditure on education was Rs. 30,000 and on civil works Rs. 31,000. HOSHANGĀBĀD, SOHĀGPUR, SEONĪ-MĀLWĀ, HARDA, and PACHMARHĪ are municipal towns.

The police force, in charge of the District Superintendent, consists of 581 officers and men, including 74 railway police and 10 mounted constables, besides 1,363 village watchmen, for 1,340 inhabited towns and villages. Hoshangābād town has a District jail, with accommodation for 168 prisoners, including 12 females.

In respect of education the District stands fifth in the Province, 4·6 per cent. of the population (8·8 males and 0·3 females) being able to read and write. The proportion of children under instruction to those of school-going age is 12 per cent. Statistics of the number of pupils are as follows: (1880–1) 3,778, (1890–1) 5,363, (1900–1) 8, 39, (1903-4) 8,403, including 615 female scholars. The educational institutions comprise two high schools, five English and seven vernacular middle schools, and 129 primary schools. The high school at Hardā, opened in 1900, is maintained by the Foreign Christian Missionary Society of America. The District contains nine girls' schools, consisting of a vernacular middle school at Hoshangābād town and eight primary schools. Ten boys' and five girls' schools are managed by missionary bodies. The total expenditure on education in 1903-4 was Rs. 74,000. of which Rs. 60,000 was derived from Provincial and Local funds and Rs. 8,000 from fees.

The District has 11 dispensaries, with accommodation for 102 in-patients. In 1904 the number of cases treated was 68,292, of whom 756 were in-patients, and 1,528 operations were performed. The expenditure was Rs. 19,000, mainly from Provincial and Local funds.

Vaccination is compulsory only in the municipal towns of Hoshangābād, Hardā, Sohāgpur, and Seonī The percentage of successful vaccinations in 1903–4 was 29 per 1,000 of the District population, which is below the Provincial average.

[C. A. Elliott, *Settlement Report* (1867); F. G. Sly, *Settlement Report* (1905).]

Hoshangābād Tahsīl.—*Tahsīl* of Hoshangābād District, Central Provinces, lying between 22° 18′ and 22° 52′ N. and 77° 30′ and 78° 5′ E., with an area of 804 square miles. The population in 1901 was 125,071, compared with 137,811 in 1891. The density is 156 persons per square mile. The *tahsīl* contains two towns, HOSHANGĀBĀD (population, 14,940), the head-quarters of the District and *tahsīl*, and ITĀRSI (5,769); and 309 inhabited villages. Excluding 84 square miles of Government forest, 65 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 355 square miles. The demand for land revenue in the same year was Rs. 1,88,000, and for cesses Rs. 17,000. The *tahsīl* consists of two well-marked tracts: on the north the Narbadā valley, a level open black-soil plain with a gentle slope from the Mahādeo hills to the Narbadā river; and on the south the elevated Bordhā plateau, covered with light sandy soil and surrounded by hills.

Hoshangābād Town.—Head-quarters of the District and *tahsīl* of the same name, and also of the Nerbudda Division, Central Provinces, situated in 22° 46′ N. and 77° 44′ E., on the Indian Midland section of the Great Indian Peninsula Railway, 12 miles from Itārsi junction and 476 miles from Bombay. The town is picturesquely placed along the southern bank of the Narbadā river, while north of the river stretch the Vindhyan Hills in Bhopāl territory. Population (1901), 14,940.

The name of the place is derived from Hoshang Shāh Ghorī, Sultān of Mālwā, who is said to have founded Hoshangābād in the fifteenth century. In 1802 it was occupied by Wazīr Muhammad, the well-known minister of Bhopāl. He was defeated by a Marāthā army outside Sohāgpur and hotly pursued into Hoshangābād. While making a stand outside the town a horse was killed under him; and he then mounted his celebrated crop-tailed horse, and escaped by leaping him over the battlements of the fort. A rude stone figure of a horse still marks the spot, and is locally venerated. Hoshangābād was taken by the Marāthās in 1809 after a three months' siege, and was occupied by British troops in 1817. It is now the head-quarters of the Commissioner and Divisional Judge, Nerbudda Division, and of an Executive Engineer, besides containing the usual District Staff. Hoshangābād was created a municipality in 1869. The municipal receipts during the decade ending 1901 averaged Rs. 29,000. In 1903–4 the income was Rs. 24,000, the principal item being octroi. The town has some local trade, and a brass-working industry is carried on. Bamboo walking-sticks are made and exported, and excellent building stone is obtained from a quarry in the vicinity. There is a printing press. Hoshangābād has a high school with 90 pupils, and several other schools. It is the head-quarters of the Friends Foreign Mission,

which supports numerous medical and educational institutions, and has a technical school in a village near the town. Other institutions are a public dispensary and police hospital, and a veterinary dispensary. A Government agricultural farm and cattle-farm have recently been started.

Hoshiārpur District.—Submontane District in the Jullundur Division, Punjab, lying between 30° 59′ and 32° 5′ N. and 73° 30′ and 76° 38′ E., with an area of 2,244 square miles. Its eastern boundary consists of the western slopes of the Sola Singhi hills, a range of the Outer Himālayan system, which separates it from Kāngra District and Bilāspur State, and whose highest elevation (3,896 feet) within the District is at Bharwain, its summer station. Parallel with this range and lying north-west-by-south-east runs the northern section of the Siwālik range, locally known as the Katār Dhār. Between these ranges is the Jaswān or Una Dūn, a broad fertile valley, watered by the Sohān stream, which rises in its northern extremity and flows south-east until it falls into the Sutlej near Anandpur. The latter river, breaking through the Sola Singhi range near Bhabaur, flows south-east through the Dūn until at Rupar it cuts through the Siwāliks and thence flows west. The south-east corner of the District, the Jandbhari *ilāka*, lies on the left bank of the Sutlej; but that river forms its boundary on the extreme south-east and south, separating it from Ambāla. On the north the Beās also breaks through the Sola Singhi hills, and sweeping round the northern end of the Siwāliks flows thence almost due south, dividing the District from Kāngra on the north and Gurdāspur on the west.

Physical aspects.

Hoshiārpur thus consists of a long, irregular oval, the Siwāliks forming its axis and dividing it into two unequal parts, of which the western is the larger. This part is a rich well-wooded submontane tract, which slopes south-westwards from the Siwāliks towards the borders of the Kapūrthala State and Jullundur District. It is watered by only two perennial streams of any size: namely, the western or Black Bein, which rises in the swamps near Dasūya and flows into Kapūrthala, and the eastern or White Bein, which rises near Garhshankar, and, after a short winding course through the *tahsīl* of that name, turns sharply to the north and meanders along the Jullundur border. The principal feature of this submontane tract is the *chos*, or seasonal torrents, which, rising in the Siwāliks, spread like a network over the plain. At an earlier period the silt washed down from the Siwāliks must have formed the alluvial plain to their west and caused its fertility, but owing to the deforestation of those hills the *chos* have for a considerable time been destroying it. Dry in the rainless months, they become raging torrents after heavy rain; and, passing

through the sandy belt which lies below the western slope of the hills, they enter the plain, at first in fairly well-defined channels, but finally spreading over its surface and burying the cultivation under infertile sand. At a special inquiry held in 1895–6, it was found that no less than 147 square miles were covered by these torrent-beds, an increase of 72 since 1852. The Punjab Land Preservation (*Chos*) Act (Act II of 1900) has been extended to the Siwāliks, in order to enable the Local Government to limit the rights of grazing and wood-cutting as a preliminary step towards their reafforestation, which, it is hoped, will remedy the damage now being caused by the hill torrents.

Geologically, the District falls into two subdivisions: a south-western, composed of alluvium; and a north-eastern, comprising the Siwālik and sub-Himālayan ranges running north-west from the Sutlej. These ranges are formed of the sandstones and conglomerates of the upper Siwālik series, which is of Upper Tertiary (pliocene) age[1].

The southern portion of the District hardly differs botanically from the general character of the Central Punjab, though the mango and other sub-tropical trees thrive particularly well in cultivation. The submontane part has a true Siwālik flora, and in one valley in the extreme north of the District the *sāl* (*Shorea robusta*) finds its northern limit. The *ber* (*Zizyphus Jujuba*) is plentiful.

Wild animals include leopards (in the hills), hyenas, wolves, antelope, deer, &c. Feathered game is fairly plentiful.

Owing to the proximity of the hills, the heat in the plains is never excessive, while Bharwain, the summer station of the District, enjoys a mild hot season. The chief cause of mortality is fever. Plague entered the District from Jullundur in 1897; and, in spite of considerable opposition culminating in a serious riot at Garhshankar, vigorous measures were for three years taken to stamp out the disease, and to some extent successfully.

The annual rainfall varies from 31 inches at Garhshankar to 34 at Hoshiārpur. Of the rainfall at the latter place, 28 inches fall in the summer months, and 6 in the winter. The greatest fall recorded of late years was 79 inches at Una in 1881–2, and the least 13 inches at Dasūya in 1901–2.

History.

Tradition associates several places, notably DASŪYA, with the Pāndavas of the Mahābhārata, but archaeological remains are few and unimportant. Prior to the Muhammadan invasions, the modern District undoubtedly formed part of the Katoch kingdom of Trigartta or Jullundur; and when at an unknown date that kingdom broke up into numerous petty principalities, the Jaswān Rājās, a branch of the Katoch dynasty, established themselves

[1] Medlicott, 'On the Sub-Himālayan Ranges between the Ganges and Rāvi,' *Memoirs, Geological Survey of India*, vol. iii, pt. ii.

in the Jaswān Dūn. The plains probably came permanently under Muhammadan rule on the fall of Jullundur in 1088, but the hills remained under Hindu chieftains. In 1399 Tīmūr ravaged the Jaswān Dūn on his way to capture Kāngra fort. At this period the Khokhars appear to have been the dominant tribe in the District; and in 1421 Jasrath, their chief, revolted against the weak Saiyid dynasty, but in 1428 he was defeated near Kāngra. After that event several Pathān military colonies were founded in the plain along the base of the Siwāliks, and BAJWARA became the head-quarters. The fort of Malot, founded in the reign of Sultān Bahlol by a Pathān grantee of the surrounding country, was Daulat Khān's stronghold. It played an important part in Bābar's invasion, and after its surrender Bābar crossed the Siwāliks into the Jaswān Dūn and marched on Rūpar. Under Sher Shāh, the governor of Malot ruled all the hills as far as Kāngra and Jammu, and organized some kind of revenue system. By this time the Dadwals, another Katoch family, had established themselves at Datārpur in the Siwāliks. On Akbar's accession, the District became the centre of Sikandar Sūri's resistance to the Mughal domination, but he was soon reduced, and in 1596 the Jaswāns were disposed of without actual fighting. After this the District settled down under the Mughal rule and was included in Todar Mal's great revenue survey.

The Rājās of Jaswān and Datārpur retained possession of their fiefs until 1759, when the rising Sikh adventurers, who had already established themselves in the lowlands, commenced a series of encroachments upon the hill tracts. The Jaswān Raja early lost a portion of his dominions, and when Ranjit Singh concentrated the whole Sikh power under his own government, both the petty Katoch chiefs were compelled to acknowledge the supremacy of Lahore. At last, in 1815, the ruler of Jaswān was forced by Ranjit Singh to resign his territories in exchange for an estate held on feudal tenure (*jāgīr*); and three years later his neighbour of Datārpur met with similar treatment. Meanwhile, the lowland portion of the District had passed completely into the hands of the Sikh chieftains, who ultimately fell before the absorbing power of Ranjīt Singh; and by the close of 1818 the whole country from the Sutlej to the Beās had come under the government of Lahore. A small portion of the District was administered by deputies of the Sikh governors at Jullundur; but in the hills and the Jaswān Dun, Ranjīt Singh assigned most of his conquests to feudal rulers (*jāgīrdārs*), among whom were the deposed Rājās of Datārpur and Jaswān, the Sodhīs of Anandpur, and the Sikh prelate Bedi Bikramā Singh, whose head-quarters were fixed at Una. Below the Siwālik Hills, Sher Singh (afterwards Mahārājā) held Hājīpur and Mukeriān, with a large tract of country, while other great tributaries

received assignments elsewhere in the lowland region. Shaikh Sandhe Khān had charge of Hoshiārpur at the date of the British annexation, as deputy of the Jullundur governor.

After the close of the first Sikh War in 1846, the whole tongue of land between the Sutlej and the Beās, together with the hills now constituting Kāngra District, passed into the hands of the British Government. The deposed Rājās of Datārpur and Jaswān received cash pensions from the new rulers, in addition to the estates granted by Ranjīt Singh; but they expressed bitter disappointment that they were not restored to their former sovereign positions. The whole of Bedi Bikramā Singh's grant was resumed, and a pension was offered for his maintenance, but indignantly refused; while part of the Sodhī estates were also taken back. Accordingly, the outbreak of the Multān War and the revolt of Chattar Singh, in 1848, found the disaffected chieftains ready for rebellion, and gave them an opportunity for rising against the British power. In conjunction with the Kāngra Rājās, they organized a revolt, which, however, was soon put down without serious difficulty. The two Rājās and the other ringleaders were captured, and their estates were confiscated. Rājā Jagat Singh of Datārpur lived for about thirty years at Benares on a pension from the British Government. Umed Singh of Jaswān received a similar allowance; Ran Singh, his grandson, was permitted to reside at Jammu in receipt of his pension; and on the assumption by Queen Victoria of the Imperial title in January, 1877, the *jāgīr* confiscated in 1848 was restored to Tikka Raghunāth Singh, great-grandson of the rebel Rājā, and son-in-law of the Mahārājā of Kashmīr. Bedi Bikramā Singh followed Chattar Singh at Gujrāt, but surrendered at the close of the war and obtained leave to reside at Amritsar. His son, Sujān Singh, receives a Government pension, and has been created an honorary magistrate. Many other local chieftains still retain estates, the most noticeable being the Rānās of Mānaswāl and the Rais of Bhabaur. The sacred family of the Sodhīs, lineal descendants of Rām Dās, the fourth Sikh Gurū, enjoy considerable pensions.

The Mutiny did not affect this District, the only disturbances being caused by the incursion of servants from Simla, who spread exaggerated reports of the panic there, and the rapid march of a party of mutineers from Jullundur, who passed along the hills and escaped across the Sutlej before the news had reached head-quarters.

Population.

The population of the District at the last four enumerations was: (1868) 937,699, (1881) 901,381, (1891) 1,011,659, and (1901) 989,782, dwelling in 11 towns and 2,117 villages. It decreased by 2·1 per cent. during the last decade, the decrease being greatest in the Hoshiārpur *tahsīl* (3·6) and least in Garhshankar. The density of the population is high.

The District is divided into the four *tahsīls* of HOSHIĀRPUR, DASŪYA, UNA, and GARHSHANKAR, the head-quarters of each being at the place from which it is named. The chief towns are the municipalities of HOSHIĀRPUR, the head-quarters of the District, TĀNDA-URMAR, HARIANA, GARHDIWĀLA, UNA, ANANDPUR, MUKERIĀN, DASŪYA, and MIANI.

The following table shows the chief statistics of population in 1901 :—

Tahsīl.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hoshiārpur .	508	4	489	264,112	519·9	− 3·6	12,388
Dasūya .	501	4	633	239,004	477·1	− 2·3	6,952
Una . .	717	2	523	225,198	314·1	− 1·8	11,680
Garhshankar	509	1	472	261,468	513·7	− 1·0	8,360
District total	2,244	11	2,117	989,782	441·0	− 2·1	39,380

NOTE.—The figures for the areas of *tahsīls* are taken from the revenue returns. The total District area is that given in the *Census Report*.

Hindus (603,710) comprise more than 60 per cent. of the total; Muhammadans number 312,958, or 32 per cent.; and Sikhs, 71,126, or 7 per cent. Punjābi is the language chiefly spoken.

The Jats or Jāts (153,000) are first in point of numbers, comprising 15 per cent. of the total. They are chiefly Hindus, but include 35,000 Sikhs and 26,000 Muhammadans. The next most numerous are the Rājputs (94,000), who comprise more than 9 per cent. of the population; they are mostly Hindus in the hills and Muhammadans in the plains. The Gūjars (78,000) are a pastoral people, who are found mainly in the Siwāliks. The Pathāns (7,000) are descendants of colonists planted by the Afghān invaders; their villages originated in small brick fortifications, and are disposed partly in a long line parallel to the Siwāliks, as a protection against invasion from the hills, partly in a cluster guarding the Srī Gobindpur ferry on the Beās. The Mahtons (10,000) are by their own account Rājputs who have descended in the social scale owing to their practice of widow marriage. They are either Hindus or Sikhs. The Kanets (1,700) are said to have the same origin as the Mahtons, and are equally divided between Hindus and Sikhs. The Arains (35,000) and Sainis (45,000) are industrious and careful cultivators; the former are entirely Muhammadans, the latter Hindus or Sikhs. Other landowning tribes are the Awāns (13,000) and Dogars (5,000), who are chiefly Muhammadans, and Ghirths (47,000), locally known as Bahtis and Chāhngs, who are almost entirely Hindus. The Brāhmans (80,000) are extensive land-

holders in the hills and also engage in trade. Of the commercial classes, the Khattrīs (21,000) are the most important. Of the menial tribes may be mentioned the Chamārs (leather-workers, 121,000), Chūhrās (scavengers, 19,000), Jhīnwars (water-carriers, 24,000), Julāhās (weavers, 24,000), Kumhārs (potters, 11,000), Lohārs (blacksmiths, 16,000), Nais (barbers, 14,000), Tarkhāns (carpenters, 33,000), and Telis (oil-pressers, 12,000). About 60 per cent. of the population are dependent on agriculture.

The Ludhiāna Mission has a station at Hoshiārpur, dating from 1867, and five out-stations in the District; its staff consists of 20 persons, with Scripture-readers and catechists, and includes a qualified lady doctor. The District contained 785 native Christians in 1901.

Agriculture.

The Siwālik Hills, which form the backbone of the District, are for the most part soft sandstone, from which by detrition is formed a belt of light sandy loam known as the Kandī tract, lying immediately at their foot. This soil requires frequent, but not too heavy, showers, and the tract is to a large extent overspread with shifting sand blown from the torrent beds. Parallel to this comes a narrow belt, in which the loam is less mixed with sand; and this is followed by the exceptionally fertile Sirwāl belt, in which the spring-level is near the surface, and the loam, little mixed with sand except where affected by the hill torrents, is of a texture which enables it to draw up and retain the maximum of moisture. South-east of Garhshankar is a tract of clayey loam, probably an old depression connected with the Bein river, while north of Dasūya, and so beyond the range of the Siwālik denudation, is an area probably formed by the alluvion of the Beās, which is one of the most fertile in the District. The soil of the Una valley is for the most part a good alluvial loam, especially fertile on the banks of the Sutlej.

The District is held almost entirely on the *bhaiyāchārā* and *pattīdāri* tenures, *zamīndāri* lands covering only about 120 square miles. The area for which details are available in the revenue records of 1903–4 is 2,235 square miles, as shown below :—

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Hoshiārpur	508	261	15	63
Dasūya	501	327	30	66
Una	717	267	6	98
Garhshankar . . .	509	291	40	48
Total	2,235	1,146	91	275

The chief crops of the spring harvest are wheat and gram, which occupied 452 and 225 square miles respectively in 1903–4. Barley

occupied only 27 square miles. There were 154 acres of poppy. In the autumn harvest maize is the most important crop (212 square miles), and forms the staple food of the people; pulses occupied 81 square miles and rice 39. Very little great or spiked millet is grown. Sugar-cane is a very valuable crop, covering 38 square miles. Cotton occupied 27 square miles.

The cultivated area increased by about 3 per cent. during the twenty years ending 1901, its extension having been much hindered by the destructive action of the mountain torrents. Outside their range of influence, almost every cultivable acre is brought under the plough; cash rents rise to as much as Rs. 50 per acre, and holdings as small as half an acre are found. Maize is the only crop for which any pains are taken to select the best seed. Advances under the Land Improvement Loans Act are little sought after; in many places unbricked wells, dug at a trifling cost, answer every purpose, while in others the water lies too deep for masonry wells to be profitable. Even in the Sirwāl tract, where there is a tendency to increase the number of masonry wells, they are more often dug in combination by a large number of subscribers, who each own a small holding, than by means of loans from Government.

The cattle are mostly small and weak, especially in the hills, and such good bullocks as are to be found are imported. Although Bajwāra and Tihāra are mentioned in the *Ain-i-Akbarī* as famous for their horses, the breed now found is very poor. The District board maintains two pony and five donkey stallions. The people possess few sheep. Goats, which used to be grazed in the Siwāliks in large numbers, and caused much damage, have now under the provisions of the *Chos* Act been excluded from the western slopes of that range. Camels are kept in a few villages. A good deal of poultry is bred for the Simla market.

Of the total area cultivated in 1903-4, 91 square miles, or 8 per cent., were clssed as irrigated. Of this, 57 square miles, or 63 per cent., were irrigated from wells, 23 square miles, or 25 per cent., from canals; and 11 square miles, or 12 per cent., from streams. There were 6,533 masonry wells and 7,511 unbricked wells, lever wells, and water-lifts. Except lever wells (which are worked by hand), these are worked by bullocks, generally with the Persian wheel, but occasionally with the rope and bucket. They are found chiefly in the Sirwāl tract. Canal-irrigation is mainly from a private canal called the Shāh Nahr, an inundation cut taking off from the Beās in the north-west of the District. It was originally constructed during the decline of the Mughal empire, and was reopened in 1846 by a number of local landholders at their own expense. Government in 1890 acquired by agreement the management of the canal, subject to certain rights reserved to the share-

holders. There are also some small cuts taking off from the Beās, which belong to private individuals and villages, and irrigate about 10 square miles. The irrigation from streams is by means of artificial watercourses, and is employed in some of the hilly tracts.

The District has 27 square miles of 'reserved' and 139 of unclassed forests under the Forest department, consisting of the forests of *chīl* pine which cover the slopes of the Sola Singhi range, and 10 square miles of bamboo forest in the Siwāliks. A small *rakh* of 3 square miles on the Outer Siwāliks is under the control of the Deputy-Commissioner. All the *chīl* trees on these hills are also the property of Government. The inner slopes are sparsely clad with pine; the denudation of the outer slopes by the action of the hill torrents has already been referred to. In 1903-4 the forest revenue was Rs. 19,000.

Gold is washed in the bed of the Sohān and other hill streams, but in quite insignificant quantities, the average earnings of the workers not amounting to more than 3 annas a day. The District contains quarries of limestone of some value, and *kankar* of an inferior quality is found. Saltpetre is extracted from saline earth in fourteen villages, the output being about 140 maunds a year. There are some valuable quarries of sandstone.

The principal manufacture is that of cotton fabrics, which in 1901 employed 44,000 persons. The chief articles are coloured turbans and cloth with coloured stripes. HOSHIARPUR TOWN is a centre for the manufacture of ivory or bone and copper inlay work and of decorative furniture, but the demand for inferior work in Europe and America has led to deterioration. Lacquered wooden ware and silver-work, with some ivory-carving, are also produced. The carpenters have a reputation for good work, and there is a considerable manufacture of glass bangles. Ornamented shoes are also made, and buskins, breeches, and coats of soft *sāmbar* (deer) skin. At DASŪYA cups and glasses of coloured glass are made. Light 'paper' pottery is made at TĀNDA, and brass vessels at Bahādurpur.

Trade and communications.

Trade is chiefly confined to the export of raw materials, including rice, gram, barley, sugar, hemp, safflower, fibres, tobacco, indigo, cotton, lac, and a small quantity of wheat. Of these, sugar forms by far the most important item. The cane grows in various portions of the plains, and sugar is refined in the larger towns and exported to all parts of the Punjab, especially to Amritsar. The principal imports are cotton piece-goods from Delhi and Amritsar, millets and other coarse grains from the south of the Sutlej, and cattle from Amritsar and the south.

The District contains no railways, but a line from Jullundur to Hoshiārpur is contemplated. The road from Jullundur to Kāngra runs across the District, and transversely to this two lines of road, one

on either side of the Siwāliks, carry the submontane traffic between the Beās and Sutlej. The total length of metalled roads is 37 miles, and of unmetalled roads 737 miles. Of these, 21 miles of metalled and 28 miles of unmetalled roads are under the Public Works department, and the rest under the District board. The Sutlej is navigable below Rūpar during the summer months, and the Beās during the same period from the point where it enters the District. The Sutlej is crossed by six and the Beās by ten ferries, nine of which are managed by the District board.

None of the famines which have visited the Punjab since annexation affected Hoshiārpur at all seriously; the rainfall is generally so plentiful and the soil so moist that a great part of the District is practically secure from drought. The area of crops matured in the famine year 1899–1900 amounted to 7·6 per cent. of the normal.

Administration.

The District is in charge of a Deputy-Commissioner, aided by five Assistant or Extra-Assistant Commissioners, of whom one is in charge of the District treasury. For general administrative purposes the District is divided into four *tahsīls*—HOSHIĀRPUR, GARHSHANKAR, UNA, and DASŪYA—each with a *tahsīldār* and a *naib-tahsīldār*.

The Deputy Commissioner as District Magistrate is responsible for criminal justice, and civil judicial work is under a District Judge. Both officers are supervised by the Divisional Judge of the Hoshiārpur Civil Division. There are six Munsifs, three at head-quarters and one at each outlying *tahsīl*. The predominant form of crime is burglary.

Under Sikh rule the District was unusually fortunate, in that Misr Rūp Lāl was appointed to the administration of the *doāb* in 1802. He was able and honest, allied to local families by marriage, and interested in the welfare of the people. His assessments were light and easily paid. In 1839 he was succeeded by a different type of ruler, Shaikh Ghulām Muhī ud-dīn, whose oppressive administration lasted until the British conquest. The summary settlement of the whole *doāb* was promptly made on annexation by John Lawrence. The demand was 13½ lakhs. Except in Garhshankar, the summary settlement worked well In 1846 the regular settlement of Jullundur and Hoshiārpur began. Changes in officers and the pressure of other work prevented anything being done until 1851, when a Settlement officer was appointed to Hoshiārpur. His charge, however, did not correspond with the present District, as other officers settled the Una *tahsīl*, part of Garhshankar, and the Mukeriān tract. The result for the District as now constituted was an increased demand of Rs. 9,000. Many assignments of revenue, however, had in the meantime been resumed, and the assessment was really lighter than the summary demand. Between 1869 and 1873 a revision of the records-of-rights in the hilly tracts was

carried out. The settlement was revised between 1879 and 1882. The total revenue assessed was 13¼ lakhs, of which Rs. 71,000 are 'assigned,' while a water rate was imposed on the lands irrigated by the Shāh Nahr Canal. Government subsequently took over the canal, and the shareholders became annuitants, receiving 8 annas out of every 18 annas imposed as water rate. The canal is managed by the Deputy-Commissioner, and all profits are ear-marked to the improvement and extension of the watercourses. The average assessment on 'dry' land is Rs. 1–15 (maximum Rs. 4–4, minimum 6 annas), and that on 'wet' land Rs. 4–8 (minimum Rs. 6, minimum Rs. 3). The demand for 1903–4, including cesses, was 16·4 lakhs. The average size of a proprietary holding is 1·5 acres.

The collections of land revenue alone and of total revenue are shown below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4
Land revenue .	12,60	13,65	13,57	13,74
Total revenue . .	15,84	17,89	19,93	20,36

The District possesses nine municipalities, HOSHIĀRPUR, TĀNDA-URMAR, HARIĀNA, GARHDIWĀLA, UNA, ANANDPUR, MUKERIĀN, DASŪYA, and MIĀNI; and one 'notified area,' Khānpur. Outside these, local affairs are managed by the District board, which in 1903–4 had an income of Rs. 1,67,000. The expenditure in the same year was Rs. 1,49,000, education being the largest item.

The regular police force consists of 480 of all ranks, including 93 municipal police. The Superintendent usually has three inspectors under him. The village watchmen number 1,765. There are 15 police stations and 4 road-posts. The District jail at head-quarters has accommodation for 106 prisoners.

The District stands twelfth among the twenty-eight Districts of the Province in respect of the literacy of its population. In 1901 the proportion of literate persons was 4 per cent. (7·3 males and 0·2 females). The number of pupils under instruction was 4,813 in 1880–1, 9,749 in 1890–1, 9,639 in 1900–1, and 10,772 in 1903–4. In the last year the District had 13 secondary and 146 primary (public) schools, and 3 advanced and 75 elementary (private) schools, with 278 girls in the public and 315 in the private schools. The Hoshiārpur municipal high school was founded in 1848 to teach Persian and Hindī, and was brought under the Educational department in 1856. The study of English was introduced in 1859, Arabic and Sanskrit in 1870, at about which time it was made a high school. There are also three unaided Anglo-vernacular high schools, one vernacular high school, and eight middle schools. The Ludhiāna Mission

supports a girls' orphanage and boarding-school, and two day-schools for Hindu and Muhammadan girls. The total number of pupils in public institutions in 1904 was about 7 per cent. of the number of children of school-going age. The total expenditure on education in 1903–4 was Rs. 74,000, the greater part of which was met from Local funds.

The civil hospital at Hoshiārpur has accommodation for 33 male and 12 female in-patients. The District also contains fourteen outlying dispensaries. At these institutions in 1904 a total of 145,455 out-patients and 1,170 in-patients were treated, and 9,267 operations were performed. Local funds contribute nearly three-fourths of the expenditure, which in 1904 amounted to Rs. 24,000, and municipal bodies the remaining fourth. The Ludhiāna Mission has recently opened a female hospital in Hoshiārpur under a qualified lady doctor.

The number of successful vaccinations in 1903–4 was 29,000, representing 29 per 1,000 of the population.

[H. A. Rose, *District Gazetteer* (1904); J. A. L. Montgomery, *Settlement Report* (1885).]

Hoshiārpur Tahsīl. Western *tahsīl* of Hoshiārpur District, Punjab, lying between 31° 21′ and 31° 50′ N. and 75° 40′ and 76° 7′ E., with an area of 508 square miles. The population in 1901 was 264,112, compared with 273,864 in 1891. It contains the towns of HOSHIĀRPUR (population, 17,549), the head-quarters, GARHDIWALA (3,652), HARIĀNA (6,005), and Khānpur (3,183); and 489 villages, including BAJWARA, a place of some historical interest. The land revenue and cesses in 1903–4 amounted to 4·3 lakhs. The *tahsīl* comprises the western slopes of the Siwāliks, the poor land at their base, a central strip of fairly productive but sandy soil, and in the west a broad belt of fertile land irrigated by wells. It is well wooded, and the mango groves are a characteristic feature. Torrent-beds, dry except after heavy rain, are met with every few miles.

Hoshiārpur Town.—Head-quarters of the District and *tahsīl* of Hoshiārpur, Punjab, situated in 31° 32′ N. and 75° 52′ E., at the foot of the Siwāliks, on the Jullundur-Dharmsāla road, 25 miles from Jullundur. The Divisional and Sessions Judge of the Hoshiārpur Civil Division has his head quarters here. Population (1901), 17,549. The town was seized in 1809 by Ranjit Singh, and formed the head-quarters of the governors of the Jullundur Doāb. It is famous for the production of articles of wood inlaid with ivory. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 47,500, and the expenditure Rs. 47,400. In 1903–4 the income was Rs. 58,600, chiefly derived from octroi; and the expenditure was Rs. 44,900. It maintains a high school, the management

of which was taken over by the Educational department in 1904. There are two other unaided high schools in the town, which also possesses a civil hospital; and the Ludhiāna Mission maintains a female hospital.

Hoskote.—Eastern *tāluk* of Bangalore District, Mysore, lying between 12° 51′ and 13° 15′ N. and 77° 38′ and 77° 59′ E., with an area of 272 square miles. The population rose from 60,667 in 1891 to 73,855 in 1901. The *tāluk* contains two towns, Hoskote (population, 3,184) and Sūlibele (2,186), and 365 villages. The land revenue demand in 1903–4 was Rs. 1,55,000. The Ponnaiyār is the western boundary towards the north, and, forming the large Hoskote tank, runs through the south of the *tāluk*. Except for a few low hills in the north, the country is open. Along the river and east from Nandagudi the best cultivation is found. Some potatoes are grown, and poppy used to be grown formerly. Hay is made near Hoskote for the Bangalore market. Hoskote town, the head-quarters, is situated in 13° 4′ N. and 77° 48′ E., on the Ponnaiyār, 6 miles from Whitefield railway station. Hosa-kote, the 'new fort,' so called to distinguish it from KOLĀR, was built about 1595 by the Sugatūr chief, who also made the large tank, 10 miles in circumference when full.

Hospet Subdivision.—Subdivision of Bellary District, Madras, consisting of the HOSPET, HADAGALLI, KŪDLIGI, and HARPANAHALLI *tāluks*.

Hospet Tāluk.—Western *tāluk* of Bellary District, Madras, lying between 15° 0′ and 15° 29′ N. and 76° 17′ and 76° 48′ E., with an area of 540 square miles. The population in 1901 was 101,947, compared with 92,512 in 1891. The *tāluk* contains two towns, HOSPET (population, 18,482), the head-quarters, and KAMPLI (9,803); and 121 villages. Of the villages the best known is Hampi, which has given its name to the wonderful ruins of the old city of VIJAYANAGAR which lie scattered around. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,08,000. Containing the rugged wildernesses of granite hills round Daroji and Kampli and many outliers from the Sandūr and Copper Mountain ranges, Hospet is the most hilly area in the District. Nine-tenths of it is covered with light mixed soils. Only one-twelfth is black cotton soil, and even this is scattered in many isolated patches and does not occur in any one continuous spread. Kanarese is the prevailing vernacular. It is the only part of Bellary of which any considerable proportion is protected from drought in all seasons, 14 per cent. of the cultivated area, most of which is supplied by the Tungabhadra channels, being safe from famine. It consequently suffered less in the distress of 1876–8 than any other part of the District. Some of this irrigated land is very valuable; it is reported that fields round Kampli have changed hands at prices

working out at Rs. 1,200 per acre. Much of it, however, is malarious, and some of the villages near Hospet town are almost deserted, the people being compelled by fever to live elsewhere. Sugar-cane and rice are the chief crops raised on the irrigated land, the area under sugar-cane being considerably more than half of the total under that crop in the whole District. Owing to the many hills, the proportion of the total area which is arable is lower than in any other *tāluk*.

Hospet Town ('New town').—Head-quarters of the subdivision and *tāluk* of the same name in Bellary District, Madras, situated in 15° 16′ N. and 76° 24′ E., on the Southern Mahratta Railway. A branch line has been built from here to Kottūru. Population (1901), 18,482. The town consists of one long market street, with a temple at the end and a number of small lanes opening off it. The chief merchants live in the suburb of Chittavādigi, which is the centre of trade for the western *tāluks* of the District. Owing partly to the fever which is gradually invading the western portion of Chittavādigi and partly to the existence of the railway station in Hospet, Chittavādigi is extending eastwards to join the rest of the town. The fever is worst on the land irrigated by channels from the Tungabhadra. More than one village among the 'wet' fields has been almost entirely deserted; and even the farm-labourers frequently live in Hospet or Chittavādigi, and go out daily to their work rather than reside on the irrigated land. Mainly owing to this fact, the population of Hospet advanced by more than 40 per cent. during the ten years ending 1901. The chief industry is cotton-weaving. There is a native tannery, and five or six families make brass toe-rings, bangles, cattle-bells, &c. The trade in jaggery (coarse sugar), most of which goes by rail towards Bombay, is large; but the decline in price, due to the competition of sugar refined by European processes, has affected it adversely. The jaggery is made from the cane irrigated by the Tungabhadra channels. So universal is the use of iron cane-crushing mills, that two native smiths in Hospet have learnt to make and repair them. They procure the necessary castings, &c., from Madras and adjust them and put them together. One of them employs a lathe worked by bullock-power. Conspicuous objects in the town are three stone Muhammadan tombs east of the bazar-street, known locally as the three mosques, and two other similar erections near the divisional officer's bungalow.

The town was built by the Vijayanagar king Krishna Deva between 1509 and 1520 in honour of Nāgalādevī, a courtesan whom he had known in his youth, and whom he married after he became king. He called it, after her, Nāgalāpur, and it was his favourite residence. In his time it was the entrance gate, as it were, to the city of Vijayanagar for all travellers coming from Goa and the west coast. Krishna Deva also made the enormous embankment south of the town, connect-

ing the ends of the two parallel ranges of hills which farther south enclose the valley of SANDŪR. It was carried out with the aid of João de la Ponte, a Portuguese engineer whose services had been lent by the Governor-General of Goa. Immediately south of Hospet, at the northern end of the big embankment, rises a prominent hill of a curious conical shape with smooth grass-covered sides, which is called the Joladarāsi, or 'heap of *cholam*.' The youth among the local Boyas used to back themselves to run up it without stopping, carrying a bag of grain on their shoulders. Farther east along this same range is the bold peak of Jambunāth Konda (2,980 feet above the sea); and half-way up this, in a very picturesque glen, standing on a broad artificial terrace, is the temple of Jambunāth. From Hospet to the foot of the hill is about 3 miles, and a paved way leads up to the temple.

Hosūr Subdivision.—Subdivision of Salem District, Madras, consisting of the HOSŪR, KRISHNAGIRI, and DHARMAPURI *tāluks*.

Hosūr Tāluk.—Northern *tāluk* of Salem District, Madras, lying between 12° 9′ and 12° 54′ N. and 77° 29′ and 78° 16′ E., with an area of 1,217 square miles. The northern and western portions are on the high level of the Mysore plateau, and form a bare and uninteresting tract. In the south and east the country is full of beauty, being a series of plateaux sustained by lines of forest-clad hills and sinking by rapid descents down to the valley of the Cauvery. The *tāluk* is the most thinly peopled portion of the District; but at the Census of 1901 it contained a population of 184,971, compared with 155,768 in 1891, the increase, at the rate of nearly 19 per cent., being the most rapid in the District. Much of the country is covered with jungle, and is the rearing-ground of the so-called Mysore breed of cattle. The climate on the table-land is cool and pleasant, resembling that of Bangalore. The *tāluk* contains one town, HOSŪR (population, 6,695), the head-quarters of the subdivision and the *tāluk*. The number of villages is 750. The demand for land revenue and cesses in 1903–4 was Rs. 2,49,000.

Hosūr Town.—Head-quarters of the subdivision and *tāluk* of the same name in Salem District, Madras, situated in 12° 44′ N. and 77° 50′ E. The nearest railway station is Malūr on the Bangalore branch of the Madras Railway, 20½ miles by a good road. It is also easily accessible from Bangalore, 24 miles distant. Population (1901), 6,695. To the west of the town stands an old fort, mentioned frequently in the history of the wars with Tipū Sultān, and supposed to have been built for Tipū by an English engineer named Hamilton. He and two other prisoners were barbarously beheaded on the approach of Lord Cornwallis's army in 1791. The divisional officer's bungalow, locally called the Castle, was built at great cost by a former Collector, Mr. Brett (1859–62), when Hosūr was the head-quarters of

the District. It is in the style of an English mediaeval castle, with turrets, battlements, a moat, &c. It was purchased by Government in 1875 for Rs. 10,000.

Four miles south of the town, at Mattagiri, is the Hosūr Remount Dépôt, from which the Ninth Division of the army in India is supplied with cavalry and artillery horses. This dates from 1828, and is in charge of a British officer assisted by a subaltern of the Army Veterinary department. The greater number of the horses are Australians bought from the importers at Madras. They are acclimatized and broken to their work at the dépôt. The place has a wonderfully English appearance, the grassy paddocks being surrounded with post-and-rail fences and entered by gates of familiar pattern, and much of the work on the farm is done by horses instead of bullocks.

Hotgi.—Village in the District and *tāluka* of Sholāpur, Bombay, situated in 17° 36′ N. and 75° 58′ E., 9 miles south-east of Sholāpur city. Population (1901), 3,918. It is the junction of the Great Indian Peninsula Railway with the Hotgi-Gadag section of the Southern Mahratta line. The village contains a dispensary belonging to the Southern Mahratta Railway.

Hoti Mardān.—Town in Peshāwar District, North-West Frontier Province. *See* MARDAN.

Howrah District (*Hābara*).—Small District in the Burdwān Division of Bengal, lying between 22° 13′ and 22° 47′ N. and 87° 51′ and 88° 22′ E., with an area of 510 square miles. Howrah, which is a separate magisterial charge, is for revenue purposes subordinate to HOOGHLY DISTRICT, by which it is bounded on the north; its western and eastern boundaries are the Rūpnārāyan and the Hooghly rivers, which separate it from Midnapore and the Twenty-four Parganas and meet at its southern angle.

Physical aspects.

The District is intersected from north to south by the DAMODAR, which falls into the Hooghly opposite Faltā Point. There are many small streams and watercourses, the principal being the Kāna Dāmodar, a tributary of the river of that name, which rises near Tārakeswar in Hooghly District, and falls into the Dāmodar at Amtā; the Saraswatī, at one time the main channel of the Ganges but now merely a branch of the Hooghly, which it leaves near Tribenī and, after flowing southwards through Howrah, rejoins at Sānkrail; and the GAIGHATA BAKSHI KHĀL, which connects the Rūpnārāyan and Dāmodar. The District is studded with depressions lying between the larger rivers, the most important being the Rājāpur marsh between the Hooghly and Dāmodar, which is now being gradually drained; towards the south the country lies so low as to require protection by costly Government and private embankments.

The surface is covered with alluvium, consisting chiefly of sandy clay and sand.

The vegetation is composed almost exclusively of the aquatic and marsh plants to be met with in rice-fields, such as *Hydrilla*, *Utricularia*, *Caesulia*, or of those semi-spontaneous plants that form the village shrubberies of Central Bengal, such as *Glycosmis*, *Trema*, *Urena*, *Solanum*, *Datura*, *Leonotis*, and the like. Waste places are generally covered with a weedy vegetation; and one of the striking features is the extent to which such weeds as occur in these places are exotic so far as Bengal is concerned, many of them, such as *Scoparia*, *Ageratum*, *Evolvulus nummularius*, and *Peperomia pellucida*, being originally natives of America.

Wild hog abound in the south, and a stray leopard is occasionally seen.

Humidity is high but the rainfall is rarely excessive, the average yearly total being 57 inches, of which 5·5 inches fall in May, 10·2 in June, 12 in July, 12·3 in August, and 8·1 in September. The climate resembles that of Calcutta and the Twenty-four Parganas; separate statistics of temperature are not available.

The District is subject to floods, owing to the sudden rising of the Dāmodar and Rūpnārāyan rivers; and destructive inundations occurred in 1823, 1833, and 1864. Embankments were formerly maintained along both banks of the Dāmodar; but they were breached almost every year, and those along the right bank were eventually abandoned in order to preserve those on the left bank of the river. In September, 1900, an abnormal rainfall of 24 inches in 48 hours caused extensive floods. Many cattle were drowned, and hundreds of houses destroyed, and the rice crop was ruined over an area of 150 square miles. Destructive cyclones occurred in 1832, 1833, 1842, and 1864, the last wrecking several vessels on the Hooghly. The great earthquake of 1897 caused much damage to brick built houses in Howrah city.

History.

Howrah, with the rest of the Burdwān Division and the District of Bīrbhūm, formed part of the old Hindu province of Bengal known as Rārh, but very little authentic information exists regarding its early history. The neighbourhood of Howrah city has long been a centre of European trade. When the Portuguese began to frequent the Hooghly river, about 1530, an important mart sprang up at Betor, close to Sibpur, where goods were transhipped from their vessels into small boats in which they were carried to SĀTGAON, near the modern town of Hooghly. Betor was abandoned towards the end of the sixteenth century in favour of Sūtānuti, the site of the modern Calcutta. In 1687 Job Charnock settled temporarily at Ulubāria before he founded Calcutta. In 1819 Hooghly and Howrah were separated from Burdwān, of which they

had previously formed part, and made into a separate District. Howrah is still an apanage of Hooghly for revenue purposes, but in 1843 it was constituted a separate magisterial charge.

Population.

The population increased from 635,878 in 1872 to 675,394 in 1881, to 763,625 in 1891, and to 850,514 in 1901. Malaria is prevalent in rural areas owing to the bad drainage, and the mortality from cholera, dysentery, and diarrhoea is also high. Details of the population in 1901 for each subdivision are shown below:—

Subdivision.	Area in square miles.	Number of Towns.	Number of Villages.	Population	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Howrah . .	173	2	365	431,257	2,493	+ 17.7	52,136
Ulubāria . .	337	..	1,086	419,257	1,244	+ 5.5	45,865
District total	510	2	1,451	850,514	1,668	+ 11.4	98,001

NOTE. Ulubaria town has been created a municipality since the Census of 1901.

In 1901 a fifth of the population was urban, dwelling in the two towns of HOWRAH and BALLY, which are industrial suburbs of Calcutta. In the whole District there are 1,668 persons to the square mile; excluding Howrah and Bally the density is 1,351, which is still greater than that of any other District in Bengal. Nearly half the increase in the decade ending 1901 was due to the exceptional expansion of HOWRAH CITY. Howrah gains largely by immigration from all the neighbouring Districts, except Calcutta, and also from the United Provinces and Bihār. Most of these immigrants are attracted by the mills, iron-works, and other industries in Howrah city, and barely a third of the inhabitants of this busy manufacturing centre are District born. The local vernacular is the dialect of Central Bengal. Hindus number 672,544, or 79 per cent. of the total, and Muhammadans 175,123, or 20·6 per cent.; among the remainder are 2,588 Christians.

Nearly all the Muhammadans are Shaikhs, while Kaibarttas (231,000), the great race-caste of Midnapore, constitute more than two-thirds of the Hindus. Brāhmans (52,000) and the semi-aboriginal Bāgdis (73,000) are also numerous. Of the total population, 42 per cent. are supported by agriculture, 26 per cent. by industries, 2·3 per cent. by commerce, and 3·7 per cent. by the professions. The proportion of agriculturists is lower, and that of the industrial population higher, than in any District outside Calcutta, many of the people, even in the rural areas, going daily to work in the metropolis.

The majority of the Christians are Europeans and Eurasians

employed in Howrah city; and in 1901 native Christians numbered only 579. The Church of England Zanāna Mission maintains three girls' schools in Howrah attended by 327 pupils, and a Baptist Mission and a branch of the Oxford University Mission also work there. The Church Missionary Society supports a resident missionary for evangelistic work among the Hindī-speaking population. A small American Mission belonging to a community calling itself 'The Church of God' is established in Ulubāria.

Agriculture.

The agricultural statistics for 1903-4 are shown below, in square miles:—

Subdivision	Total.	Cultivated	Cultivable waste.
Howrah	173	58	7
Ulubāria . . .	337	120	16
Total	510	178	23

Owing to the silt deposited by the rivers, the soil is very fertile. The staple product is rice, the winter crop being by far the most important, but wheat, barley, maize, mustard, jute, and hemp are also grown. Fodder is abundant, though there are few regular pasture-grounds. A market held at Ulubāria every Saturday is largely frequented by dealers in cattle and poultry. Six fairs are held to which agricultural produce is brought for sale, the chief being the Rām Krishna Paramhansa *mela*. The District is not liable to famine, and the people as a whole are so well off that there is no need for advances under the Loans Acts, except when the crops are damaged by floods.

The Howrah, Rājāpur, and Barajalā drainage schemes described below serve also for irrigation purposes in years of drought, when water is let in from the rivers. Some lands on the banks of the Kāna Dāmodar are occasionally watered from the EDEN CANAL.

Trade and communications.

Domestic industries are few and unimportant. Hand-made paper of an inferior quality is produced on a small scale in the Amtā *thāna*. Silkworms are still reared in some parts, the thread being taken to Calcutta and Ghātāl for sale; but the industry is dying out, the annual value of the silk being estimated at only Rs. 12,500. Earthenware articles are made throughout the District, and the pottery of Sānkrail, Patihal Chandīpur, and Bally has a local repute, the annual out-turn being valued at Rs. 1,17,030. Tiles are made at Barrackpur in the Bally *thāna*.

But, if home industries are insignificant, the case is far otherwise with industries dependent on European methods and worked with European capital. The bank of the Hooghly is lined with no less than 56 factories, employing 51,000 hands. These include 6 cotton-mills, 9 jute-mills, 7 jute-presses, 2 paper-mills, 3 flour-mills, 5 rail-

way workshops, 4 engineering workshops, 4 iron-works, 4 rope-works, 4 dockyards, 2 salt-crushing mills, a printing press, lime-works, and cement-works. In 1903-4 the cotton-mills contained 176,100 spindles, employed 4,400 hands, and turned out 18,000,000 lb. of goods valued at 56 lakhs. The jute-mills with 84,000 spindles and 4,060 looms employed 27,000 hands, and manufactured goods to the value of 251 lakhs. The paper-mills at Bally produced paper worth 13½ lakhs. In addition to the larger iron-works mentioned above, 16 small firms managed by native agency purchase pig-iron and scrap-iron in Calcutta, and manufacture weights, sugar-cane presses, rollers, bolts, plant for oil- and jute-mills, building and carriage material, railings, iron safes, &c., the out-turn being valued in 1901 at 1·39 lakhs. Bricks are extensively manufactured along the right bank of the Hooghly and the Bally Khāl, where 91 brick-fields employ 2,660 hands and produce an out-turn valued at nearly 4 lakhs. About a third of the brick-fields are worked by native methods, but the use of pug-mills and Bull's patent kilns is spreading.

For commercial purposes the District forms part of Calcutta. Howrah city is the terminus of the East Indian and Bengal-Nāgpur Railways, which connect Calcutta with Upper India, with Bombay, and with Nāgpur and Madras. The chief articles of export are rice, vegetables, betel-leaf, sugar-cane, wheat, flour, coco-nuts, *hukkas*, hides, cotton cloth, cotton twist, silk, bricks, and ropes. The chief imports are rice, wheat, pulses, oilseeds, European piece-goods, kerosene oil, jute, hemp, *ghī*, sugar, spices, cotton, cotton twist and yarn, wine and other liquors, salt, tobacco, timber, iron, straw, potatoes, shoes, and glass. The chief centres of trade are HOWRAH CITY, BALLY, GHUSURĪ, SĀLKHIA, SĀNKRAIL, ULUBĀRIA, and AMTĀ.

Besides the two great railways mentioned above, the Howrah-Sheakhāla and Howrah-Amtā Light Railways have opened out tracts in the north and north-west which were formerly difficult of access. An extension of the Amtā line from Jagatballabhpur to Champādānga has been sanctioned. The grand trunk road leading north from Sibpur, and the Orissa trunk road, which in this District runs from Ulubāria to the Rūpnārāyan river, are maintained from Provincial funds, their aggregate length in the District being 25 miles. Exclusive of these and of the roads within Howrah and Bally municipalities, the District contains 117 miles of road, of which 35 are metalled, and 441 miles of village tracks.

Before the opening of the Cuttack branch of the Bengal-Nāgpur Railway, the MIDNAPORE CANAL formed the main route between Calcutta and Midnapore. The first two reaches of this canal, running westwards from Ulubāria on the Hooghly to the Dāmodar and thence to the Rūpnārāyan, lie within the District. The two latter rivers

are also connected by the Gaighāta Bakshi Khāl, an improved natural waterway. Other navigable channels are the Bally Khāl, which runs from the Dānkuni marsh into the Hooghly at Bally and forms the main outfall of the Dānkuni drainage, and the Sānkrail, Kālsāpa, Mithākunda, and Pukuriā Khāls. Inland navigation is carried on in small country boats; and daily steamer services connect Calcutta with Rājganj, Ulubāria, Ghātāl (via Ulubāria), and Kālna (via Bally and Uttarpāra), all of which serve places within the District.

Administration.

It has already been mentioned that Howrah, when made a separate magisterial charge, continued for revenue purposes to form part of Hooghly. Land revenue and cesses are still paid there; but the Magistrate of Howrah has been appointed a Deputy-Collector and declared independent of Hooghly with regard to excise, land acquisition, salt, income-tax, treasury, and stamps. He is assisted by a staff of one Joint-Magistrate and three or four Deputy-Magistrate-Collectors, while another Deputy-Collector, assisted by a Sub-Deputy, is in charge of the Ulubāria subdivision. Howrah city is the head-quarters of an Assistant Inspector-General of railway police.

The administration of civil justice is controlled by the District Judge of Hooghly. The District shares with Hooghly a Small Cause Court Judge, assisted by a Registrar, for the disposal of petty money claims, and there are five Munsifs, of whom three are stationed in Howrah city, and one each at Amtā and Ulubāria. Sessions cases are tried by the Additional Judge of the Twenty-four Parganas. Howrah, with its large labour force and fluctuating population, is a convenient centre for criminals; and it is largely frequented by professional thieves from up-country.

The approximate rent paid by the actual cultivator to his immediate landlord is Rs. 13 per acre for rice lands, Rs. 26 for sugar-cane fields, Rs. 22 for jute lands, and Rs. 16 for autumn rice lands. The land revenue and cess accounts are included in those of Hooghly District, and it is only in recent years that those for revenue from other sources were made separate. The latter amounted to Rs. 4,06,000 in 1901–2 and to Rs. 4,62,000 in 1903–4.

Outside the municipal towns of HOWRAH, BALLY, and ULUBĀRIA, local affairs are managed by a District board, with subordinate local boards at Howrah and Ulubāria. In 1903–4 the income of the District board was Rs. 1,13,000, of which Rs. 39,000 was derived from rates; and the expenditure was Rs. 1,04,000, half of which was spent on public works. The Howrah District board was the pioneer in introducing light railways in Bengal; the railways from Howrah to Amtā and to Sheakhāla were constructed under a guarantee of 4 per cent.

interest on the capital, the board receiving half of any profits earned in excess of this amount. The board has profited handsomely by the former railway.

The embankments along the Dāmodar and on the south bank of the Gaighāta Bakshi Khāl have a total length of 37 miles, and there are 6 miles of *takāvi* embankment on the left bank of the Mādāria Khāl. Large areas have been drained by the Rājāpur, Howrah, and Barajalā drainage schemes, the works consisting of drainage channels with sluices leading into the Hooghly. These serve also as a protection against drought, as they afford a means of irrigation in years of deficient rainfall. The Hooghly is spanned by a pontoon bridge, which is described in the article on CALCUTTA, and the Dāmodar and Rūpnārāyan have been bridged near their mouths by the Bengal-Nāgpur Railway. At Sibpur are situated the Botanical Gardens, which are beautifully laid out along the Hooghly and are stocked with both ornamental and useful plants. They were founded in 1788, at the instance of Colonel Alexander Kyd, for the collection of plants indigenous to the country, and for the introduction and acclimatization of foreign species. This object has been fully realized, and the gardens are a centre of botanic science for all India. They cover 272 acres and contain a fine herbarium, a botanical library, and monuments to the first two Superintendents, Kyd and Roxburgh.

The District contains 18 police stations and 14 outposts. The police force subordinate to the District Superintendent in 1903 (including extra police) consisted of 5 inspectors, 25 sub-inspectors, 47 head constables, and 688 constables; there was also a rural police force of 132 *daffadārs* and 1,374 *chaukīdārs*. There was one policeman to every 0·8 square mile of area and to every 1,431 persons. Subsidiary jails at Howrah city and Ulubāria have an aggregate accommodation for 61 prisoners.

In 1901 the proportion of literate persons was 11·5 per cent. (21·2 males and 1·2 females), the proportion for males being exceeded in Bengal only in the case of Calcutta. The total number of pupils under instruction was 33,200 in 1892–3 and 33,464 in 1900–1. In 1903 4, 39,301 boys and 2,331 girls were at school, being respectively 59·6 and 3·7 per cent. of the children of school-going age. The number of educational institutions, public and private, in 1903 was 940, including 58 secondary, 829 primary, and 53 special schools. The expenditure on education was 3·62 lakhs, of which 1·48 lakhs was contributed by Government, Rs. 24,000 by the District board, and Rs. 6,000 by municipalities, while 1·58 lakhs was derived from fees. The principal educational institution is the Civil Engineering College at Sibpur.

In 1903, excluding the General Hospital in Howrah city, the District

contained 5 dispensaries, of which 2 had accommodation for 9 in-patients; the cases of 25,000 out-patients and 169 in-patients were treated, and 1,583 operations were performed. The expenditure was Rs. 9,000, of which Rs. 200 was met from Government contributions, Rs. 3,000 from Local and Rs. 1,300 from municipal funds, and Rs. 4,000 from subscriptions.

Vaccination is compulsory only within the municipal areas. Elsewhere vaccination is backward, and the number of successful vaccinations in 1903–4 was only 21,500, or 25 per 1,000 of the population.

[Sir W. W. Hunter, *Statistical Account of Bengal*, vol. iii (1876) and C. N. Banerjee, *Account of Howrah, Past and Present* (Calcutta, 1872).]

Howrah Subdivision.—Head-quarters subdivision of Howrah District, Bengal, lying between 22° 30′ and 22° 42′ N. and 88° 2′ and 88° 22′ E., with an area of 173 square miles. The subdivision is a level plain, bounded on the east by the Hooghly river, and containing numerous swampy depressions farther inland. The population in 1901 was 431,257, compared with 366,296 in 1891, the density being 2,493 persons per square mile. It contains two towns, HOWRAH (population, 157,594), the head-quarters, and BALLY (18,662); and 365 villages

Howrah City.—Head-quarters of Howrah District, Bengal, situated in 22° 35′ N. and 88° 21′ E., on the right bank of the Hooghly, opposite Calcutta. The city, which stretches for 7 miles along the banks of the river and includes the important suburbs of Sibpur, Ghusurī, Sālkhia, and Rāmkrishnapur, is now a great industrial suburb of Calcutta, of comparatively modern growth. In the sixteenth century a market sprang up at Betor, near Sibpur, where the Portuguese used to tranship their goods from their sea-going vessels into the small river craft which ascended the Hooghly to Sātgaon. Towards the end of the century Betor was deserted in favour of Sūtānuti, the site of the modern Calcutta. In 1785 Howrah was a small village held by one Mr. Lovett, who found it so unprofitable that he petitioned to be allowed to relinquish it. The Nawāb Nāzim's artillery park was at one time stationed here; and the artillery practising ground is shown in old maps, north of the railway, where the most densely populated part of the city now is. The Government salt *golās* were located within the limits of the town, and it gradually grew in importance until in 1843 it became the seat of a separate Magistracy. In 1853 a further impetus was given to its development by the establishment here of the terminus of the East Indian Railway, the first section of which was opened to traffic in 1854. In 1874 the pontoon bridge was opened, and the improved communication with Calcutta thus afforded enabled many of the people employed in the metropolis to reside on the right

bank of the Hooghly. Meantime, there had been a continuous development of various large industries conducted according to European methods, of which the rope-works at Ghusurī and Shalimār, founded a century ago, are probably the oldest. Then followed iron foundries and engineering works, and subsequently the rise of the jute and cotton-spinning industries, until at the present time there are no less than forty registered factories working within municipal limits.

Excluding 13,715 persons in Bally, which then belonged to Howrah but has since been made a separate municipality, the population in 1872 was 84,069. In 1881 it had grown to 90,813, and in 1891 to 116,606, while at the Census of 1901 it was 157,594, or 35 per cent. more than in 1891 and nearly 87 per cent. more than in 1872. This rapid expansion is due almost entirely to the great industrial development that has taken place. The growing demand for labour has been met by immigration, about two-thirds of the inhabitants being immigrants, chiefly from up-country. More than 33,000 come from the United Provinces, and about 25,000 from Bihār. Among these foreigners there is an enormous excess of males, who outnumber the females in the ratio of 2 to 1. They are for the most part operatives in the mills, who return home as soon as they can afford to do so. In the meantime, they live huddled together in crowded lodging-houses. This overcrowding is not a necessary condition in Howrah, as there is ample room for building at no great distance from the centres of industry. It proceeds partly from the desire of the operatives to live as near as possible to their work, partly from their poverty which leaves them little to spare for rent, and partly from the pressure of municipal taxation which falls heaviest on huts and discourages the construction of new ones, unless there is a certainty of their being kept full of lodgers. With the exception of Calcutta, Howrah is now the most populous city in Bengal. Of the total population, 73·6 per cent. are Hindus and 24·9 per cent. Muhammadans, while there are 2,282 Christians and 71 followers of other religions.

Howrah was constituted a municipality in 1862. The income during the ten years ending 1901–2 averaged 5·86 lakhs, and the expenditure 5·40 lakhs. The rapid growth of the population has led to a great increase in the value of house property and land, and the income has more than doubled during the decade, amounting in 1903–4 to 9·71 lakhs, of which 1·83 lakhs was derived from a tax on houses and property, 1·49 lakhs from a conservancy rate, 1·33 lakhs from a water rate, Rs. 55,000 from a lighting rate, Rs. 12,000 from a tax on vehicles, and Rs. 52,000 as rent from lands and other municipal property. The incidence of taxation was Rs. 3–6–6 per head of the population. In the same year the expenditure was 6·10 lakhs, including Rs. 60,000 spent on lighting, Rs. 97,000 on water-supply, Rs. 18,000 on drainage,

Rs. 1,79,000 on conservancy, Rs. 55,000 on roads, Rs. 17,000 on medical relief, and Rs. 5,000 on education. Portions of the city have been lit with gas for more than 25 years, and the system is being extended; but the greatest recent improvement was the introduction in 1896 of a filtered water-supply from water-works, filters and pumping stations having been constructed at Serampore. The city had previously suffered very severely from water famines and cholera; but since the opening of the water-works the former have ceased, and the latter has not appeared in epidemic form. On the other hand, the general death-rate has risen. The city lies low, and the amount of stagnant water has greatly increased since the water-works were opened. It is in urgent need of an efficient system of drainage. The municipality maintains 50 miles of metalled and 4 miles of unmetalled roads.

Howrah is the terminus of the East Indian and the Bengal-Nāgpur Railways, which bring down the coal and other products of the western Districts and connect Calcutta with the general railway system of Upper India and the Peninsula. It is also the terminus of the Howrah-Amtā and Howrah-Sheakhāla Light Railways. It is connected with Calcutta by a floating pontoon bridge (*see* CALCUTTA). The chief public buildings are the Magistrate's office, the civil courts, the District board and municipal offices, the Howrah General Hospital, the Sibpur Civil Engineering College, and the Howrah District school. The jail has accommodation for 18 convicted and 31 under-trial prisoners.

For police purposes the town is divided into 3 *thānas*, Howrah, Golābāri, and Sibpur; and the force in 1904 consisted of 3 inspectors, 5 sub-inspectors, 18 head constables, and 345 constables.

The principal educational institution is the Civil Engineering College at Sibpur, which occupies the buildings and premises of the old Bishop's College, since transferred to Calcutta. The college contains four departments. In the Engineer department, the course extends over four years, after which the pupils have to undergo a further period of one year's practical training under the Public Works department to obtain the final college certificate; a certain number of the successful graduates receive appointments in Government service. The course in the Apprentice department lasts for five years, but those leaving after three and a half years are entitled to third-grade overseer's certificates. The Artisan class is chiefly for the benefit of sons of *mistris* (carpenters), and a stipend of from R. 1 to Rs. 3 a month is given to those who turn out satisfactory work. The Agricultural class is to be transferred to the Imperial Institution at Pusa. The total number of pupils under instruction in 1903–4 was 386, and the expenditure amounted to Rs. 1,50,000, of which Rs. 1,28,000 was met from Provincial funds and the balance from fees.

The Howrah General Hospital has 112 beds, and in 1903 1,848 in-patients and 13,000 out-patients were treated, and 1,521 operations were performed. The expenditure amounted to Rs. 34,000, of which Rs. 6,000 was contributed by Government, Rs. 10,000 from Local funds, Rs. 5,000 from municipal funds, and Rs. 9,000 from subscriptions.

Hsahtung (Burmese, *Thaton*).—State in the central division of the Southern Shan States, Burma, lying between 19° 54′ and 20° 24′ N. and 97° 7′ and 97° 29′ E., with an area (including the dependencies of Tamhpak or Tabet, and Lakmong or Lamaing) of 472 square miles. On the north it is bounded by Wanyin, Mongpawn, and Möngsit; on the east by Mawkmai, from which it is separated by the Nam Pawn; on the south by Karenni; and on the west by Mongpai, Sakoi, Namtok, and Samka. Over the centre and eastern half of the main State extends a plateau, about 4,000 feet above the sea, formed of thinly wooded rolling downs. This is the prosperous Taungthu tract. The two dependencies are in the south, are low-lying, and are mainly populated by Shans. In the south is a small forest area, which was worked till recently. The forest revenue in 1904 amounted to Rs. 1,248. A certain amount of flat rice land is irrigated from the Tamhpak stream by means of water-wheels; but most of the rice is grown on the hill slopes to the east on the *taungyas* worked by the Taungthus, who also cultivate numerous homestead gardens. Less important crops are cotton and tobacco. The population in 1901 was 10,584, distributed in 159 villages. Of this total, classified according to the language spoken, 7,616 were Taungthus, 2,126 Shans, and the remainder Padaungs and Karens. Nearly all the inhabitants are Buddhists. Hsahtung may be looked upon as the head-quarters of the Taungthu race in the Shan States. The Myoza, who is a Taungthu, has his residence at Loiput (population, 211), in the north of the State, connected by a country track with the main Southern Shan States cart road. The revenue in 1903-4 amounted to Rs. 15,500 (nearly all from *thathameda*); and the chief items of expenditure were Rs. 6,000 tribute to the British Government, Rs. 4,700 spent on pay and administration, Rs. 3,600 credited to the privy purse, and Rs. 1,200 spent on public works.

Hsamönghkam (Burmese, *Thamakan* or *Thamaingkan*).—One of the largest States in the Myelat division of the Southern Shan States, Burma, lying between 20° 26′ and 20° 50′ N. and 96° 27′ and 96° 47′ E., with an area of 297 square miles. It is bounded on the north by Kyong and Poila; on the east by Mawnang and a circle of Yawnghwe; on the south by part of Yawnghwe and by Loimaw and Loi-ai; and on the west by the Yamethin and Meiktila Districts of Upper Burma. About 7,500 acres are under cultivation. Rice is the chief crop, grown mainly in

taungyas; *thanatpet* is an important product, and the cultivation and export of potatoes is on the increase. The population of the State in 1901 was 12,561, distributed in 196 villages. About 6,000 of the total were Danus (of mixed Burmese and Shan origin), 4,500 Taungthus, and the remainder Shans and members of other hill tribes. The residence of the Myoza is at Hsamonghkam (population, 531), in the centre of the State, near the main road from Thazi to Taunggyi. It is the head-quarters of the Assistant Superintendent in charge of the Myelat division. The revenue in 1904–5 was Rs. 16,000 (mainly from *thathameda*, but also including land revenue). The tribute to the British Government is Rs. 8,300.

Hsawnghsup (Burmese, *Thaungdut*).—Shan State within the limits of the Upper Chindwin District, Upper Burma, over which the Deputy-Commissioner of that District exercises a certain control. It lies almost wholly to the west of the Irrawaddy, between 24° 5′ and 24° 56′ N. and 94° 22′ and 94° 43′ E. On the north it is bounded by the Homalin township; on the west by Manipur; and on the east and south by the townships of Paungbyin and Tamu. The main hill system of the Upper Chindwin District commences in the extreme north of the State, and covers the greater portion of it; between this range and Manipur is the upper end of the Kabaw valley, in which the old capital of Thaungdut is situated. A few hamlets lie in this valley, but otherwise the population of the State is confined almost entirely to the villages on the Chindwin, one of which is the capital, Thaungdut (population, 868). The rest of the country is dense forest. Previous to annexation Hsawnghsup had been a vassal State of Burma, and the Sawbwa ruling in 1886 was friendly to the British, and remained loyal throughout the Wuntho rebellion, although related to the Wuntho Sawbwa. The area of the State is about 579 square miles, and the population (estimated at 6,200 in 1897) was found to be 7,471 in 1901. Of this total, 57 per cent. are Shans, 35 per cent. Burmans, and the remainder Chins, the whole being distributed in 84 villages. Under the Sawbwa are *myo-oks* in charge of townships, who are responsible for the revenue, civil, and criminal administration of their charges. Regular taxes were first imposed in 1890, and under the present Sawbwa *thathameda* is levied at Rs. 10 per household. There are no other taxes. The revenue amounts to about Rs. 8,000, Rs. 400 being payable as tribute to the British Government. Order is kept by a force of about 30 police, armed with guns and *das*. There is a small export of paddy.

Hsenwi, North (Burmese, *Theinni*).—A Northern Shan State, Burma, lying between 22° 37′ and 24° 9′ N. and 97° 14′ and 98° 55′ E., with an area of 6,330 square miles. It lies, for the most part, west of the Salween, and is bounded on the north and east by China; on the south by the Wa States east of the Salween and by South Hsenwi west

of it; and on the west by the Hsīpaw, Tawngpeng, and Möngmit States and Bhamo District. The greater part of the northern section is a mass of hills inhabited by Kachins; Palaung villages are numerous in places, and a good many Chinese settlements are scattered about. Even here, however, a number of valleys under rice cultivation remain in the hands of the Shans. The trans-Salween portion of this northern area forms the rugged district of Kokang, where most of the inhabitants are Chinese. The southern half of the State is at a much lower level, and has more flat land, along the valleys of the Nam Tu and its tributaries. This is the most valuable part of the State, and is inhabited almost entirely by Shans, with isolated circles of Kachins and other hill tribes. The valley of the Shweli along the northern border is fertile, and peopled by Shans.

North and South Hsenwi did not exist as separate States before 1888. The old State of Hsenwi included, besides North and South Hsenwi, the present Southern Shan States of Kehsi Mansam, Mönghsu, Mongsang, Kenglon, and Mongnawng, and exercised a suzerainty over Manglön and its dependencies across the Salween. The principality disintegrated, however, in later Burmese times into five divisions, each under an independent ruler or more than one; and in king Thibaw's time it had fallen into a hopeless state of disorder, in consequence of the rebellion of Sang Hai, a subordinate official, whose relations had been murdered by the Sawbwa Hseng Naw Hpa in 1855. At the time of the annexation of Upper Burma, Hsenwi was divided into three camps. The northern portion of the State was in the hands of Hkun Sang Ton Hung, one of Sang Hai's followers and his successor. In the southern portion a man named Sang Aw, commonly known as the Pa-ok-chok, had obtained the upper hand. The titular Sawbwa, Naw Hpa, was at this time in shelter at Mongsi in the north. He, however, had his supporters, and on the fall of Mandalay, his son, Naw Mong, arrived on the scene and occupied Lashio. Intestine hostilities followed during 1887; but in 1888 a British column arrived at Hsenwi, and a conference at Mongyai resulted in the division of the State into North and South Hsenwi, the former being allotted to Hkun Sang Ton Hung and the latter to Naw Mong. The Pa-ok-chok died in the following year, and a rebellion, headed by members of his family, was promptly suppressed by British intervention. In 1892–3 the Kachins rose against the Sawbwa of North Hsenwi, and the tracts inhabited by them are now directly administered by a British officer. Since then there have been no serious disturbances. The population of the State in 1901 (excluding Kokang, which, like the rest of the trans-Salween country, was omitted from the census operations) was 118,325, Shans numbering about 72,000, Kachins 29,000, Palaungs 10,000, and Chinese 5,000. The number of villages (excluding the 'estimated' tract) was 939. The Kachin hill tracts are under a civil officer at Kutkai, north

of Lashio, who is also adviser to the Sawbwa in his administration of the rest of the State. The capital is Hsenwi (population, 1,305), north of Lashio, on the Nam Tu river, in the centre of the State. LASHIO itself is in the State, and other places of importance are: Namhkam (population, about 2,000), a trade centre in the north-west close to the borders of Möngmit, Bhamo, and China; and Mongsi and Tawnio, farther to the east. The revenue of the State in 1903–4 was Rs. 91,000, mainly from *thathameda*. The tribute payable to the British Government until 1907 has been fixed at Rs. 10,000; the other items of expenditure in 1903–4 were Rs. 30,000 spent on public works, Rs. 25,000 on administration and salaries, and Rs. 22,000 devoted to the privy purse.

Hsenwi, South (Burmese, *Theinni*).—A Northern Shan State Burma, lying between 22° 4′ and 23° 1′ N. and 97° 43′ and 98° 39′ E., with an area of 2,400 square miles. It is bounded on the north by North Hsenwi; on the south by Manglon and the Southern Shan State of Kehsi Mansam; on the east by the Salween, the Wa States, and West Manglön; and on the west by Hsīpaw and North Hsenwi. The State is practically bisected by the huge upland mass of Loi Leng and the spurs extending south from it. Apart from this, it consists of broken hilly country or open rolling downs, the latter chiefly in the east of the State. It is watered by numerous streams, the most important being the Nam Pang, a tributary of the Salween. The cultivation consists of *taungyas* and level rice-fields in about equal proportions. Besides rice, cotton, sugar-cane, and a little poppy are grown on the hill-slopes; and there are gardens in each village. The history of the State has been narrated in the article on HSENWI, NORTH. The population in 1901 was 67,836, distributed in 961 villages. The predominant race is the Shan, numbering 60,169. In the more hilly tracts are Kachins and Palaungs, numbering 2,320 and 2,568 respectively; and a number of Chinese villages contain altogether 1,406 inhabitants. The rest of the population consists of Burmans, Lisaws, and Was. On a tributary of the Nam Pang, in the east of the State, is Tangyan, the head-quarters of the Assistant Superintendent in charge of South Hsenwi and Manglön. The capital is Mongyai (population, 579), situated in a fertile plain in the south-west. The revenue in 1903–4 amounted to Rs. 71,000 (entirely *thathameda*). Of this sum Rs. 20,000 was paid as tribute to the British Government, Rs. 19,000 went towards administration and salaries, Rs. 18,000 to the privy purse, and Rs. 14,000 towards public works.

Hsīpaw (Burmese, *Thībaw*).—One of the Northern Shan States, Burma, lying between 21° 56′ and 22° 56′ N. and 96° 13′ and 98° 0′ E., with an area of 5,086 square miles. It is bounded on the north by the Ruby Mines District and the States of Mongmit and Tawngpeng; on

the east by North and South Hsenwi; on the south by the Southern Shan States; and on the west by Mandalay District, from which it is separated for some distance by the Nam Pai river. It is divided into four sub-States: Hsīpaw proper in the centre and north-east, Hsumhsai in the south-west, Monglong in the north-west, and Möngtung in the south-east. The main State lies on the geological fault which runs east and west from the Salween at Kunlong to near the rim of the Shan table-land at the Gokteik gorge, and the face of the country is here broken up into a mass of not very well defined ridges and spurs. The chief plain land is in the valley of the Nam Tu near Hsīpaw, and the Pyawnggawng-Nawngpeng strath south-west of the capital of the State. The other valleys are insignificant. The country is drained by the Nam Tu, which, on the southern border of the State, runs in a deep gorge about 2,000 feet below the general level of the country. One of the chief natural features of the State is the Gokteik gorge, down which flows a small tributary of the Nam Tu. *Taungya* rice is grown on the hills and 'wet' rice in the valleys. Other crops cultivated are sesamum, the *thanat* tree (the leaf of which is used for cigar-wrappers), cotton, ginger, and, in what is known as the Kodaung tract in the west and north-west, tea. The present Sawbwa of Hsīpaw is the grandson of Sao Kya Tun, who was appointed Sawbwa by king Mindon as a reward for his assistance in removing Pagan Min from the Burmese throne. The State submitted to the British after the occupation of Mandalay in 1886. The Sawbwa, Hkun Saing by name, had fled, before the persecutions of king Thībaw, to Siam and Rangoon, where he was imprisoned in 1882 for causing the death of two of his servants. On his release he took refuge for a while in Karenni; and at the time of annexation, having obtained assistance from Sawlapaw, the chief of Karenni, he proceeded to Hsipaw and regained his throne in time to be the first Shan chieftain submitting to the British rule. In recognition of this early submission, he was rewarded with the sub-States of Monglong, Mongtung, and Hsumhsai, which were added to Hsipaw proper. He visited England in 1893, and was succeeded in 1902 by his eldest son, who had been partly educated in England. The population of the State in 1901 was 104,700, distributed in 1,661 villages. By far the greater portion (approximately 90,000) are Shans; Burmans and Danus (mainly in the Hsumhsai sub-State) numbered about 10,000; and in the hilly Kodaung tract are Palaungs (about 3,000). The rest of the population consists practically of Kachins and natives of India. The capital is Hsīpaw (population, 3,656), situated 134 miles from Mandalay, in the middle of a hill-girt valley on the banks of the Myitnge river, over which a bridge is in course of construction. Hsīpaw is one of the principal towns on the Mandalay-Lashio railway, and is the head-quarters of an Assistant Superinten-

dent of the Shan States, whose residence, close to the Sawbwa's *haw* or palace, overlooks the Myitnge river. The revenue in 1903–4 was Rs. 3,43,000, towards which *thathameda* contributed Rs. 1,76,000; opium, liquor, and bazar fees, Rs. 78,000; and land tax, Rs. 58,000. The expenditure in the same year included Rs. 1,45,000 spent on administration and salaries, Rs. 77,000 on public works, Rs. 24,000 contributed to the privy purse, and Rs. 70,000 tribute to the British Government.

Hubli Tāluka.—Central *tāluka* of Dhārwār District, Bombay, lying between 15° 10′ and 15° 30′ N. and 75° 2′ and 75° 27′ E., with an area of 311 square miles. It contains one town, HUBLI (population, 60,214), the head-quarters; and 74 villages. The population in 1901 was 124,258, compared with 118,182 in 1891. Hubli is the most thickly populated *tāluka* in the District, with a density of 399 persons per square mile. The demand for land revenue in 1903–4 was 2·6 lakhs, and for cesses Rs. 18,000. The watershed of Southern India runs through the *tāluka*. Two small ranges of hills, Doddagudd and Buradsinghi, break the level of the plain. Between Behatti and Hebsur lies a small tract which is said not to receive a good rainfall oftener than once in four years, and yet to repay the husbandman. The annual rainfall averages 29 inches.

Hubli City (*Hubbali* or *Pubbali* = 'old village').—Head-quarters of the *tāluka* of the same name in Dhārwār District, Bombay, situated in 15° 20′ N. and 75° 9′ E., on the Southern Mahratta Railway. Hubli is the eighth city in the Presidency in size. Its population has been: (1872) 37,961, (1881) 36,677, (1891) 52,595, and (1901) 60,214, including the suburbs (301). The population in the last year comprised 39,835 Hindus, 17,516 Muhammadans, 902 Jains, and 1,809 Christians. Hubli was made a municipality in 1855. The income during the decade ending 1901 averaged a little over a lakh. In 1903–4 the income was 1·56 lakhs, chiefly derived from octroi (Rs. 62,000), water rate (Rs. 15,000), and taxes on houses and lands (Rs. 14,500). The expenditure is chiefly devoted to collection charges (Rs. 28,000), public safety (Rs. 4,700), water-supply and drainage (Rs. 14,300), conservancy (Rs 16,800), education (Rs. 23,800), medical (Rs. 7,200), and public works (Rs. 10,000). Situated on the main lines of communication to Harihar, Kārwār, and Kumta, Hubli has become the centre of the cotton trade of the Southern Marāthā country. Besides raw cotton and silk fabrics, a trade in copper vessels, grain, salt, and other commodities is conducted on a large scale. There are two cotton-mills with 34,000 spindles, employing 1,200 hands, six cotton-ginning and pressing factories, and one workshop. The mills produce annually about 3,000,000 lb. of yarn, valued at 13 lakhs. Hubli contains 37 temples, 27 monasteries, 17 mosques, a Protestant

Christian church of the German Mission, and a Roman Catholic chapel. The largest and most substantial monastery is the Lingāyat Mursavirad.

Hubli centres round a plain old stone temple to Bhawānishankar, which contains a *lingam*, an image of Ganpati, and two or three other smaller gods, and from an old Kanarese inscription seems to belong to the eleventh century. Old Hubli is also locally called Rāyar Hubli, that is, 'the Hubli made by the Vijayanagar kings' (1336–1565). In 1547 Hubli was described as a place of trade in saltpetre and iron. In 1673 it is mentioned as a place of much wealth and of great trade. At this time Hubli was the seat of an English factory, which, with the rest of the town, was plundered by Annājī Dattu, one of Sivajī's generals. In 1675 it was conquered by Muhammad Saiyid Khān Tārīn, a general of Aurangzeb, who conferred upon Shāh Muhammad Khān, son of the general, who had been killed in the attack, the fort and district of Old or Rāyar Hubli and the petty division of Devar Hubli. In 1685 Sultān Muazzam took Hubli and Dhārwār. Four years later the *sardeshmukhi* of the district of Rāyar Hubli was conferred upon the Desai of Kittūr, who did not enjoy it long. In 1727 one Bassappa of Old Hubli built the town and fort of New Hubli. During the eighteenth century the Tārīn family suffered from the contests between the Marāthās and the rulers of Mysore. New Hubli seems to have fallen to the chief of Sāngli, by whom Old Hubli was held when it was taken by General Munro in 1818. In 1820 New Hubli with some other villages and districts was ceded by the chief of Sāngli in lieu of furnishing an annual contingent. Hubli is a military station in the Poona division of the Western Command. It contains a Subordinate Judge's court, two dispensaries, of which one belongs to the railway company, a municipal middle school, two schools for Europeans and Eurasians, and 22 other schools.

Hūgli.—River, District, subdivision, and town in Bengal. *See* HOOGHLY.

Hugri.—River in Mysore and Madras. *See* HAGARI.

Hukeri.—Village in the Chikodi *tāluka* of Belgaum District, Bombay, situated in 16° 13′ N. and 74° 36′ E., 30 miles north-north-east of Belgaum town. Population (1901), 6,265. Hukeri is connected with the high road to Poona and with the large town of Gokāk by metalled roads. It is a *mahālkari's* station. On the outside of the village, to the north, are some interesting Muhammadan remains of the sixteenth century, including two domed tombs in the same style as those at Bijāpur. One of the tombs is kept in repair and furnished for the use of the Collector, or as a resthouse for travellers. A few miles to the east is another large tomb of the same architecture. The place is abundantly supplied with good water by means of an underground

pipe connected with a spring to the north-west. This system of water-supply dates from the period of Muhammadan rule. A municipality was established in 1854, but abolished in 1864. The town, which has suffered severely from plague, contains a boys' school with 110 pupils and a girls' school with 46. In 1327 Muhammad bin Tughlak stationed officers here on his conquest of the Carnatic. On the Mughal destruction of Bijāpur in 1686 Hukeri was the only part of Belgaum that remained to the Marāthās, and it continued to be held by an independent Desai, the ancestor of the present Vantamurikar. In 1763 Mādhu Rao Peshwā reduced the Hukeri Desai and handed his district to the Kolhāpur chief, who was deprived of it in 1769. In 1791 Captain Moor found Hukeri a poor town.

Huli.—Village in the Parasgad *tāluka* of Belgaum District, Bombay, situated in 15° 48′ N. and 75° 12′ E., about 5 miles east of Saundatti. Population (1901), 2,104. The chief object of interest is a handsome but ruined temple of Panchlingdeo, originally a Jain *basti*. Inside are a Lingāyat inscription, a curious Nāga figure, and a Ganpati, probably brought from some other temple. Of three inscriptions at Huli, two belong to the reigns of the Western Chālukya kings, Vikramāditya V (1018–42) and Somesvara II (1069–75), and one to the Kalachuri Bijjala (1155–67). On the fall of Vijayanagar after the battle of Tālikotā (1565), Huli with various other places in Belgaum fell to the Navalgund chief Vitta Gauda. In 1674 Huli fort is said to have been built by Sivajī, and it is one of many recorded to have been held by him at the time of his death. While in pursuit of Dhundia Vāgh, General Wellesley gave the garrison of Huli on July 30, 1800, a promise of safety on condition that they committed no aggression. On August 1 they plundered the baggage of a British force as it passed the fort on the march to Saundatti, and on the 22nd Lieutenant-Colonel Capper attacked the fort and carried it by escalade. The village contains a boys' school with 82 pupils.

Huliyār.—Town in the Chiknāyakanhalli *tāluk* of Tumkūr District, Mysore, situated in 13° 35′ N. and 76° 32′ E., 14 miles from Chiknāyakanhalli. Population (1901), 1,228. Chālukya inscriptions and other remains indicate that the place may have been of importance in early times. In the sixteenth century it was held by the chiefs of Hāgalvādi. It was next included in the Mughal province of Sīra, till subdued by Haidar Alī. The municipality dates from 1880. The receipts and expenditure during the ten years ending 1901 averaged Rs. 700. In 1903–4 they were Rs. 900 and Rs. 1,200, respectively.

Humcha.—Village in the Nagar *tāluk* of Shimoga District, Mysore, situated in 13° 52′ N. and 75° 12′ E., 12 miles east of Nagar town. The original name was Pomburchchha, also called Patti Pomburchchha, which at a later period became Hombucha. It was the capital of

a Jain principality founded in the eighth century by Jinadatta Rāya, who is said to have come from Muttra in Northern India. He was invested with sovereignty by the goddess Padmāvati, whose image he had brought with him. By her direction he touched with it his horse's bit, which was at once converted into a golden bit, and she conferred on him the power thus to transmute iron into gold. A descendant of his acquired the Sāntalige country (the Tīrthahalli *tāluk*), and the rulers thenceforward took the name of Sāntara. Around the village are extensive ruins, including those of large Jain temples. The Humcha *math* is one of the chief seats of the Jains in Mysore, but is now reduced to a very impoverished state.

Hungund Tāluka.—South-eastern *tāluka* of Bijāpur District, Bombay, lying between 15° 51′ and 16° 16′ N. and 75° 50′ and 76° 20′ E., with an area of 521 square miles. It contains one town, ILKAL (population, 9,019); and 160 villages, including AMĪNGARH (7,734) and HUNGUND (4,775), the head-quarters. The population in 1901 was 83,615, compared with 102,894 in 1891, the decrease being attributable to emigration consequent upon famine. The density, 160 persons per square mile, is however above the District average. The demand for land revenue in 1903–4 was 1·56 lakhs, and for cesses Rs. 12,000. Except in the south west, the soil is mostly black and very rich. During the hot months the heat is very oppressive, but during the rest of the year the climate is one of the best in the District. Hungund has a good water-supply, chiefly from the Kistna, Malprabha, and several streams. The annual rainfall averages nearly 22 inches.

Hungund Village. Head quarters of the *tāluka* of the same name in Bijāpur District, Bombay, situated in 16° 4′ N. and 76° 4′ E., about 29 miles from Bāgalkot station on the Southern Mahratta Railway. Population (1901), 4,775. Most of the wells in the place are impregnated with sulphuretted hydrogen. Hungund contains several interesting temples, and two schools, of which one is for girls, with 253 and 57 pupils respectively.

Hunsūr Tāluk.—Western *tāluk* of Mysore District, Mysore State, lying between 12° 8′ and 12° 35′ N. and 75° 55′ and 76° 31′ E., with an area of 660 square miles. The population in 1901 was 115,928, compared with 113,271 in 1891. The *tāluk* contains two towns, HUNSŪR (population, 6,673), the head-quarters, and PIRIYĀPATNA (3,872); and 412 villages. The land revenue demand in 1903–4 was Rs. 1,57,000. The Cauvery forms part of the western boundary. The Lakshmantīrtha runs through the south and east, and is crossed by several dams, from which channels are taken off. The principal hill is that of BETTADPUR (4,389 feet). Westwards are low ranges, from which commences the great forest belt of the south-west of the District. The surface is very undulating. The north, centre, and east are open,

with scrub jungle in places, and wild date-palms in the hollows. Much of the soil is rich red, with black soil in the north. Two 'dry crops' are raised in the year, especially in the south-west. Superior tobacco is grown near Bettadpur. Grazing is exceptionally good.

Hunsūr Town.—Head-quarters of the *tāluk* of the same name in Mysore District, Mysore State, situated in 12° 18′ N. and 76° 18′ E., on the Lakshmantīrtha, 28 miles west of Mysore city. Population (1901), 6,673. It is the seat of the Amrit Mahāl cattle-breeding establishment, and till 1864 had a large tannery, blanket manufactory, and timber-yard, maintained by the Madras Commissariat. There are now extensive private coffee-pulping works and saw-mills, under European management. The municipality dates from 1872. The receipts and expenditure during the ten years ending 1901 averaged Rs. 6,000. In 1903-4 they were Rs. 5,400 and Rs. 8,700, respectively.

Hunza-Nagar.—Two small chiefships lying to the extreme north-west of Kashmīr, on the banks of the Hunza river. Towards the north they extend into the mountainous region which adjoins the junction of the Hindu Kush and Muztāgh ranges; in the south they border on Gilgit; on the west Hunza is separated from Ashkuman and Yāsīn by a range of mountains; while the Muztāgh range divides Nagar from Baltistān on the east. The inhabitants of both chiefships come from the same stock and speak the same language, but are not usually on good terms with each other. In Hunza the people are Maulais or Ismailis, followers of the Agā Khān, while in Nagar they are ordinarily Shiahs.

Lying between these States and Gilgit are Chaprot and Chalt fort with some attached villages, which were long a source of contention between the rival chiefs. In 1877 the ruler of Nagar, with the assistance of the Kashmīr Darbār, successfully occupied the disputed tract; but in 1886 he was persuaded to withdraw his troops, which were replaced by a garrison from Kashmīr. In the same year Ghazan Khān, the Tham or chief of Hunza, was murdered by his son Safdar Alī, who succeeded him and professed submission to the Mahārājā of Kashmīr. The two chiefs combined in 1888, and ejected the Kashmīr troops from Chaprot and Chalt, even threatening Gilgit; but both strongholds were reoccupied by the Kashmīr forces after a few months.

A British Agency was re-established at Gilgit in 1889; and the chiefs agreed to respect the control of the Agent, to allow free passage through their territory, and to stop raiding on the Yārkand road and elsewhere, yearly subsidies being granted to them, besides the amount paid by the Kashmīr State. These engagements were not respected; and in May, 1891, a combined force from Hunza and Nagar threatened Chalt, but dispersed on the arrival of reinforcements. Later in the

year they refused to allow roads to be made to Chalt, extending to their own country, and it became necessary to dispatch troops against them. Nagar and Hunza were occupied, and the Tham of the former place submitted, while Safdar Alī, the Tham of Hunza, fled to Chinese Turkistān. The subsidies were withdrawn, and a Political officer and military force remained at Hunza till 1897; but in 1892 Muhammad Nāzim Khān was installed as Tham in place of his half-brother Safdar Alī, while the Tham of Nagar was reinstated. In 1895 subsidies were again granted by the Government of India and the Kashmīr State, and in the same year both chiefs assisted in the relief of Chitrāl. Zafar Zāhid Khān, Tham of Nagar, died in 1904 and was succeeded by his son Sikandar Khān.

The chief of Hunza, who claims Roskam and the Taghdumbāsh Pāmir north of the Hindu Kush watershed, is permitted to exchange presents with the Chinese authorities in Kashgar, but these relations are under consideration. Both States are autonomous as regards internal affairs, and acknowledge the suzerainty of the Mahārājā of Kashmīr, to whom they pay a tribute of nominal value. They furnish levies for the defence of the frontier, who receive pay from the Kashmīr State, and are armed with Snider carbines, presented by the Government of India.

Huzūr Tahsīl (1).—Head-quarters *tahsīl* of the Rewah State, Central India, lying between 24° 12′ and 24° 43′ N. and 81° 15′ and 81° 59′ E., with an area of 1,201 square miles. The greater part lies in the alluvial plain north of the Kaimur Hills, a small section to the south of that range being in the hilly tract. It is watered by the Son and the Bihar, a tributary of the Tons, which meets the Bichia, another tributary, at the town of Rewah. Population fell from 328,932 in 1891 to 316,139 in 1901. The *tahsīl* supports 263 persons per square mile, and is the most densely populated in the State. There are two towns, REWAH (population, 24,608), the capital, and GOVINDGARH (5,022); and 975 villages. The soil is for the most part fertile, and cultivation is general. The land revenue is 2·9 lakhs.

Huzūr Tahsīl (2).—Head-quarters *tahsīl* of the Rāmpur State, United Provinces, lying between 28° 30′ and 28° 59′ N. and 78° 55′ and 79° 11′ E., with an area of 176 square miles. Population (1901), 178,333. There are 244 villages and one town, RĀMPUR CITY (population, 78,758), the State capital and *tahsīl* head-quarters. The demand for land revenue in 1903-4 was Rs. 4,85,000, and for cesses Rs. 58,000. The high density of population, 1,013 persons per square mile, is due to the inclusion of the city. This *tahsīl* lies in the centre of the State and is very fertile. In 1903-4 the area under cultivation was 131 square miles, of which 8 were irrigated, chiefly from canals.

Hyderābād Assigned Districts.—*See* BERĀR.

Hyderābād State[1].—A Native State better known as the Dominions of His Highness the Nizām, lying between 15° 10′ and 20° 40′ N. and 74° 40′ and 81° 35′ E., with an area of 82,698 square miles. It forms a polygonal tract occupying almost the centre of the Deccan plateau. Berār and the Central Provinces touch it on the north, and the Khāndesh District of the Bombay Presidency on the north-west; on the south it is bounded by the Kistna and Tungabhadra rivers, which separate it from the Guntūr, Kurnool, and Bellary Districts of Madras; on the west it is bounded by the Ahmadnagar, Sholāpur, Bijāpur, and Dhārwār Districts of Bombay; and on the east by the Wardhā and Godāvari rivers, and the Kistna District of Madras. The State is equal in area to the Madras Presidency, minus the Coromandel Coast and Coimbatore, or a little more than two and a half times the area of Ireland, or one and two-fifths of the combined areas of England and Wales.

Physical aspects.

The country is an extensive plateau, with an average elevation of about 1,250 feet above the level of the sea, but with summits here and there rising to 2,500 and even to 3,500 feet. It is divided into two large and nearly equal divisions, geologically and ethnologically distinct, separated from each other by the rivers Mānjra and Godāvari. The portion to the north and west belongs to the trappean region, that to the south and east being granitic and calcareous. There is a corresponding agreement between the two ethnological elements. The trappean region is inhabited by Marāthās and Kanarese speakers, and the granitic country by Telugu speakers. The trappean or black cotton soil country is a land of wheat and cotton; while Telingāna, or the granitic region, is a land of rice and tanks. The difference between these two tracts is very marked. The trap or black cotton soil region is covered with luxuriant vegetation, with cliffs, crags, and undulating hills. The soil resulting from the decomposition of trap is of a dark colour, and very fertile; and, being argillaceous, it retains moisture for a considerable time. In the granitic and calcareous region, on the other hand, the hills are bare of vegetation, but the plains are covered with scattered brushwood of every description; dome-shaped hills and wild fantastic boulders and tors abound in many parts, giving the region a gloomy aspect. The soil derived from the decomposition of the granite is sandy, and does not retain moisture. Consequently the rivers in this region run dry during the hot season,

[1] In 1905 the administrative units of the State, from Divisions to *tāluks*, were completely reconstituted. The text generally refers to their constitution before the rearrangement, but the main changes are explained in the paragraph on Administration and in the individual articles.

and this gives rise to the necessity of storing water in artificial reservoirs, known as tanks, with which the whole of the Telingāna tract is studded. The surface of the country has a general slope from north-west to south-east, the main drainage being in this direction; the country to the extreme north-west corner near Aurangābād has an average altitude of about 2,000 feet above sea-level, falling imperceptibly to near 1,200 feet at Raichūr and to between 800 and 900 feet near Kurnool.

The following are the chief hill and mountain ranges in the State. The Bālāghāt (*bālā* = 'upper,' *ghāt* = a 'mountain pass') is a range of hills which extends almost east and west from the Biloli *tāluk* in the east of Nānder District, through Parbhani, till it reaches Ashti, in Bhīr District, with a length in Hyderābād of 200 miles and an average width of about 4½ miles. A spur of this range branches off through tracts lying between the rivers Sīna, Mānjra, and Kāgnā, extending from Ashti in Bhīr District through Osmānābād, and terminating in Gulbarga District. A spur of the Bālāghāt runs between the rivers Godāvari and Mānjra, and passing southwards from the west of Biloli in Nānder District reaches Kaulās in Indūr District.

The Sahyādriparvat runs along the north, from Nirmal in Indūr District in the east, and passing through the District of Parbhani and the province of Berār reaches Ajanta, and proceeding farther in a westerly direction enters the Bombay District of Khāndesh. Its total length within the State is about 250 miles, for about 100 miles of which it is styled the Ajanta Hills.

Another range, known as the Jālna Hills, starts from the Daulatābād fort in Aurangābād District, and proceeds eastward as far as Jālna in the same District, and thence passes into Berār, having a length of 120 miles.

The Kandikal Gutta, 50 miles in length, extends from Warangal District in a north-westerly direction through the Chinnūr *tāluk* of Adilābād District. It is also called the Sirnapalli range.

The principal rivers are the GODĀVARI and the KISTNA, with their tributaries the TUNGABHADRA, the PŪRNA, the PENGANGĀ, the MANJRA, the BHĪMA, and the Māner. There are, besides these, many other smaller streams, such as the MŪSI, the Windi, the Munair, and others.

The Godāvari enters the State at Phultamba in Aurangābād District, flows through it and the Districts of Parbhani, Nānder, Indūr, and Adilābād for a distance of 500 miles, and changing its course at the north-east corner of Elgandal District, continues in a south-easterly direction for about 170 miles, forming the eastern boundary of Elgandal and Warangal Districts, until at Pāranthpalli, in the latter District, it enters the Godāvari District of Madras. It is joined by the

Mānjra, which rises in the Pātoda *tāluk* of Bhīr District, after a course of 387 miles through Bhīr, Osmānābād, Bīdar, Medak, Nānder, and Indūr Districts.

The Kistna crosses the border of the Bijāpur District of Bombay at Echampet in Lingsugūr District, and taking a south-easterly course traverses the Districts of Lingsugūr, Raichūr, Mahbūbnagar, Nalgonda, and Warangal, forming the southern boundary of the last three Districts and consequently of the State. Its tributary, the Bhīma, enters Hyderābād at Urchānd in Gulbarga District from the Sholāpur District of the Bombay Presidency, flows through Gulbarga and Raichūr, and falls into the Kistna in the latter District. The Tungabhadra, another tributary of the Kistna, touches Lingsugūr District at Madlāpur, and flows in a north-easterly direction until it reaches Raichūr District, whence it flows due east until its confluence with the Kistna near Alampūr in the same District. The Tungabhadra separates Lingsugūr and Raichūr from the Bellary and Kurnool Districts of Madras.

The Pengangā rises in the Sahyādriparvat and runs east along the north of Hyderābād, separating Parbhani, Nānder, and Sirpur Tāndūr (now Adilābād) Districts from the southern parts of Berār. In Sirpur Tāndūr it flows along the western and northern borders until it falls into the Wardhā river, north of the Rājūra *tāluk*.

This wide expanse of country presents much variety of surface and feature. In some parts it is mountainous, wooded, and picturesque; in others flat or undulating. The champaign lands are of all descriptions, including many rich and fertile plains, much good land not yet brought under cultivation, and numerous tracts too sterile ever to be cultivated at all. Aurangābād District, besides its caves at AJANTA and ELLORA, presents a variety of scenic aspect not met with elsewhere. The country is undulating in parts, with steppe-like ascents in some places and abrupt crags and cliffs in others.

Properly speaking there are no natural lakes in the State, but some of the artificial sheets of water are large enough to deserve the name. These are reservoirs formed by throwing dams across the valleys of small rivulets and streams, to intercept water during the rains for irrigation purposes, and they number thousands in the Telingāna tract. The largest and most important is the PĀKHĀL LAKE in the Narsampet *tāluk* of Warangal District, the dam of which is 2,000 yards long, and holds up the water of the river Pākhāl. Its area is nearly 13 square miles, and its length and breadth are respectively 8,000 and 6,000 yards.

The geological formations of the Hyderābād State are the recent and ancient alluvia, laterite, Deccan trap, Gondwāna, Kurnool, and Cuddapah, and Archaean. Those most largely developed are the Deccan trap and the Archaean, covering immense areas in the north-western

and south-eastern portions of the territory respectively. The Gondwāna rocks extend for a distance of 200 miles along those portions of the valleys of the Godāvari and Pranhitā which form the north-eastern frontier of the State. Though the main area of the Cuddapah and Kurnool formations lies in the Madras Presidency, south of the Kistna, they are found in the valley of that river along the south-eastern frontier for 150 miles, and again in the valleys of the Kistna, the Bhīma, and their tributaries in the south-west.

The oldest formation, the Archaean, consists largely of massive granitoid rocks, particularly well developed round Hyderābād, which extend eastwards past Khammamett as far as the eastern corner of the State, where the rocks become more varied and schistose, containing mica and hornblendic schists, beds of magnetite, metamorphic limestones, and other rocks. Again, a great series of schistose rocks occurs between the Kistna and Tungabhadra in the south-western Districts, which has been mapped and named as the Dhārwār system. This consists of hornblendic, chloritic, and argillaceous schists, epidiorites, and beds of quartz, associated with varying amounts of hematite and magnetite, representing a highly metamorphosed sedimentary and volcanic series. Except the groups mentioned above, the Archaean formation has not been studied in sufficient detail to define the character and boundaries of its component petrological types. The long narrow bands forming the Dhārwār schist outcrops in the last mentioned region constitute deeply folded and faulted synclines, embedded within older crystalline schists and gneiss, and injected by later granitoid intrusions. They are intersected by auriferous veins, of great economic importance, leading in the past to considerable mining activity which is now being resumed. Innumerable basic volcanic dikes occur throughout the Archaean area, some of which are epidiorites, probably of the Dhārwār period, while others, consisting of augite-dolerite or diabase, with micropegmatitic quartz of a later period of volcanic activity, are connected with the lavas of the Cuddapah group.

The outcrop of the Cuddapah series north of the Kistna river, consisting of quartzites, slates or shales, and limestones, has been divided into several unconformable groups, upper groups of which principally occur in this State. The Kurnool series, which is unconformable to the Cuddapah, consists of quartzites, limestones, and shales, which are not so altered and indurated as those of the Cuddapah. Both these have long been known as the diamondiferous sandstones of Southern India. The gems occur principally towards the base of the Kurnools. A portion of the Cuddapahs corresponds with the Bijāwārs of Central India, while the Kurnools are closely related to the Vindhyas. The main area of the Cuddapahs and Kurnools terminates near Jaggayyapet, north of the Kistna. A considerable outcrop of the Cuddapahs

follows the south-western border of the Godāvari, its former connexion with the main area being indicated by a series of elongated outliers, the largest of which lies east of Khammamett. The largest continuous spread commences north-east of Khammamett, forms the Pākhāl hills, and extends to within a short distance of the Godāvari and Māner confluence. The beds reappear north of the Godāvari, and continue north-west up to the frontier of Hyderābād, where they disappear beneath the basaltic lavas of the Deccan trap. The Cuddapahs of this area are unconformably overlaid by a vast series of quartzites and conglomerates with a few slaty beds, known as the Sullavai series, which possibly represent the Kurnools. Another outcrop of the Cuddapahs, locally known as the Kalādgi series, occupies a large area in the Bombay Districts of Belgaum and Dhārwār, the eastern extremity of which lies within the Dominions. Farther to the north-east is another belt of the Kurnool strata, intercalated between the Archaean gneiss and the Deccan trap, and locally named after the Bhīma river, which flows through their outcrop.

The Gondwāna rocks, containing the coal-measures, and occupying an enormous area in the valleys of the Godāvari and Pranhitā, are divided into the Chikiāla, Kota-Māleri, Kamptee, Barākar, and Tālcher groups. The first two belong to the Upper and the rest to the Lower Gondwānas. The boundaries of this area are mostly faults, as in most of the Indian coal-fields, which accounts for their straightness and parallelism. The Tālchers consist of fine buff sandstones, often of a greenish tinge, overlying greenish-grey slaty shales and sandstones, beneath which lies the well-known boulder-bed. The glacial origin of this latter formation has been thoroughly confirmed by the remarkable section in the Pengangā near the village of Irai, not quite a mile above the Wardhā confluence, where not only do the boulders exhibit glacial striations, but the surface of the underlying Cuddapah limestones is deeply furrowed and grooved by ice-action, as is commonly seen in glacial regions.

The Barākars are not more than 250 feet thick, but they are of great economic importance, owing to the coal-seams which they include. They consist of coal-beds, sandstones, and shales, with a few impure thin carbonaceous layers. The coal-beds are of great thickness, the Singareni thick coal averaging 56 feet.

The Kamptees rest unconformably on the Barākars and contain no coal. They consist of clays, conglomerates, and especially sandstones, many of them highly ferruginous, others calcareous, and a few manganiferous. Their principal outcrop lies west of the Godāvari, below the confluence of the Pranhitā, extending almost as far as the delta.

The Lower Gondwānas are principally upper palaeozoic in age. The Upper Gondwānas contain mesozoic fossils. Some of the most interest-

ing are those of the Kota-Māleri group, including several species of fishes and reptiles, which occur in limestone beds associated with clays. Abundant red and green clays and clayey sandstones form the most distinctive petrological feature of these beds, which rest unconformably on the Kamptees, occupying vast areas to the west of the Godāvari and Pranhitā. The Chikiāla beds, resting on the Kota-Māleri, and consisting of highly ferruginous glassy-looking sandstones and iron bands, are unfossiliferous. Their connexion with the Gondwānas is doubtful.

The Deccan trap, consisting of bedded lava-flows of basalt and dolerite, with occasional intercalations of fresh-water deposits, known as intertrappeans, covers the western part of the State, and extends all along its northern frontier.

Ancient alluvial gravels and clays, sometimes of considerable thickness, occur at various parts in the valleys of the Godāvari, Kistna, Tungabhadra, and some of their tributaries, indicating geographical conditions differing from the present ones. Their vast antiquity is shown by their containing the remains of extinct mammalia of pleistocene or upper pliocene age. The surface of the rocks is often concealed by laterite, which is a peculiar form of rock-weathering special to tropical regions. Rocks rich in iron, like the Deccan trap, are particularly liable to this form of decomposition. In the absence of laterite, the weathering of the Deccan trap produces the well-known fertile black soil, which may be in parts contemporaneous with the trap, while in the large river valleys it must have been formed or reconsolidated within a (geologically speaking) recent period, judging from the palaeolithic or even neolithic stone implements found in it. Recent alluvial flats cover considerable areas of the large river valleys, especially along the Godāvari below the Pranhitā confluence down to the delta.

The principal mineral products of the Dominions are diamonds, gold, and coal. The first occur in the Kurnool series; the gold in the Dhārwār system in Lingsugūr; and the coal in the Barākar, in the Godāvari Pranhitā-Gondwāna system, which is worked at Singareni. Rich iron ores occur in the Chikiāla sandstones, and in the Dhārwār schists. These products will be more fully described in dealing with Minerals.

Much of the land in the Hyderābād State is level, and a large portion of it is under cultivation, though there are tracts where arable soil has never been broken or cultivated, or where cultivation has lapsed. But wherever the ground is left uncultivated for a year or two, it becomes covered with a low jungle, consisting chiefly of *Cassia auriculata* and *Zizyphus microphylla*. Other level tracts also exist where the ground is quite unfit for cultivation. The forests contain,

among the larger species, *Tectona grandis*, *Diospyros tomentosa*, *Boswellia serrata*, *Anogeissus latifolia*, *Terminalia tomentosa*, *Dalbergia latifolia*, *Ougeinia dalbergioides*, *Schreibera swietenioides*, *Pterocarpus Marsupium*, and *Adina cordifolia*, with smaller species like *Briedelia retusa*, *Lagerstroemia parviflora*, *Woodfordia floribunda*, *Zizyphus*, *Morinda*, *Gardenia*, *Butea*, *Acacia*, *Bauhinia*, *Cochlospermum*, *Grewia*, and *Phyllanthus*. When ground once occupied is allowed to go out of cultivation for a short time, a similar forest speedily asserts itself, containing, besides the trees already mentioned, a considerable number of the semi-spontaneous shrubs and trees that are frequently found in the neighbourhood of Indian dwellings, such as *Bombax*, *Erythrina*, *Moringa*, *Cassia Fistula*, *Anona reticulata*, *Melia Azadirachta*, *Crataeva Roxburghii*, *Feronia Elephantum*, *Aegle Marmelos*, and various species of *Acacia* and *Ficus*.

In the hilly tracts the hills are often covered with forests, not as a rule containing much large timber, the leading constituent species being the same as those that grow in the level tracts and arable lands, but these are stunted and deformed. Throughout the whole State scattered trees of *Acacia arabica* and *Acacia Catechu* and toddy-palms (*Borassus flabellifer* and *Phoenix sylvestris*) are common; the latter two are extensively cultivated on account of their sap and juice, which, when drawn and allowed to ferment, produces an intoxicating beverage largely consumed in the Telingāna tract. The soils of this area are also favourable to the growth of the coco-nut, which cannot be grown even with the greatest care in the Marāthā region. Around villages, groves of mango (*Mangifera*), tamarind, *Bombax*, *Ficus bengalensis*, *F. religiosa*, and *F. infectoria*, and similar species exist. The tamarind does not flourish in the Marāthā Districts to the same extent as in Telingāna.

A greater variety of wild animals and feathered game is not met with in any other part of India, excepting perhaps the Mysore State. Tigers and leopards are found everywhere, while bison and occasionally elephants are met with in the immense jungle about the Pākhāl Lake. The high lands are resorted to by spotted deer (*Cervus axis*), *nīlgai* (*Boselaphus tragocamelus*), *sāmbar* (*Cervus unicolor*), four-horned antelope, hog deer, and 'ravine deer' or gazelle. Wild hog are found in the jungles, and innumerable herds of antelope in the plains. Hyenas, wolves, tiger-cats, bears, porcupine, hare, jackals, &c., are in great abundance. Of the varied species of the feathered tribe in Hyderābād, may be mentioned the grey and painted partridge, blue rock and green pigeon, sand-grouse, quail, snipe, bustard, peafowl, jungle-fowl, wild duck, wild geese, and teal of various descriptions. The florican and flamingo are occasionally seen on the banks of the Godāvari and Kistna.

The climate is not altogether salubrious, but may be considered as in general good, for it is pleasant and agreeable during the greater part of the year. The country being partially hilly, and free from the arid bare deserts of Rājputāna and other parts of India, the hot winds are not so keenly felt. There are three marked seasons: the rainy season from the beginning of June to the end of September, the cold season from the beginning of October to the end of January, and the hot season from early in February to the end of May.

The mean temperature of the State is about 81°. The following table gives the temperature for the three stations where observations have been taken regularly :—

Station.	Height of Observatory above sea-level in feet.	Average temperature (in degrees Fahrenheit) for the ten years ending with 1901 in							
		January.		May.		July.		November.	
		Mean	Diurnal range	Mean.	Diurnal range	Mean	Diurnal range.	Mean	Diurnal range
Raichūr . .	1,126	75·7	23·0	91·3	24·0	81·5	17·0	76·9	19·0
Hyderābād*	1,69[illegible]	72·1	25·8	91·9	23·2	80·4	14·4	73·5	22·1
Hanamkonda†.	871	75·1	23·1	91·7	22·0	82·4	14·0	75·6	21·8

* The figures for January, May, and July are for ten years, and for November for eleven.
† The figures for January are for three years and the rest for four.

The annual rainfall is estimated at from 30 to 32 inches, principally received during the south-west monsoon between June and October. The north-east monsoon brings between 4 and 7 inches of rain. The rainfall in 1901 was 32 inches, but in 1900 the total fall amounted to only 15 inches or less than half the normal. Westerly winds blow generally from the beginning of June to the end of September; during the next five months, from October to February, the wind blows from the east; and in March, April, and May north-easterly winds are frequent. The following table gives the rainfall at three stations :—

Station	Average rainfall (in inches) for the twenty-five years ending with 1901 in												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total of year
Raichūr . .	0·02	0·18	0·30	0·84	1·00	3·70	5·01	5·60	6·27	3·91	1·02	0·10	27·95
Hyderābād* .	0·11	0·21	0·61	0·91	0·96	4·43	6·14	6·98	6·62	3·58	1·45	0·37	32·37
Hanamkonda.	0·25	0·27	0·74	0·50	0·76	4·58	8·36	7·43	6·94	2·51	1·20	0·26	33·79

* The figures for August are for twenty-four years only.

History.

In prehistoric times the great Dravidian race occupied the southern and eastern portions of the State together with the rest of Southern India. The Telugu-speaking division of this race constitutes the most numerous section even to the present day. The Rāmāyana and the Mahābhārata contain traditions

of Dakhshinapatha (Deccan), which forms the central portion of the State. The visit of Rāma to Kishkindha, identified with the modern Vijayanagar and Anegundi, is familiar to all students of ancient literature.

It is uncertain when the invasion of the Deccan by the Aryans occurred, but the dominions of the Buddhist king Asoka (272–231 B.C.) covered the whole of Berār and a considerable portion of the north-western and eastern tracts of the State. Among the list of conquered nations in Asoka's inscriptions occurs the name of the Pitenikas, who inhabited the city and country of Paithan, on the upper Godāvari in Aurangābād District.

The Andhras were the next kings who ruled the Deccan. They are mentioned in Asoka's inscriptions, but their rise to power dates from about 220 B.C. Gradually extending their sway from the Kistna delta, they soon possessed an empire reaching to Nāsik; and towards the close of the first century of the Christian era were contending with the Sakas, Pallavas, and Yavanas of Mālwā, Gujarāt, and Kāthiāwār. Pulumāyi II, who succeeded about A.D. 138, and married a daughter of Rudradāman the Western Satrap, is mentioned by Ptolemy. He was defeated by his father-in-law and thus lost the outlying portion of his dominions. About a hundred years later the dynasty came to an end, but little is known of the reasons for its collapse. It is possible that the Pallavas who ruled south of the Kistna then extended their power into Hyderābād.

The next dynasty of importance is that of the Chālukyas, who rose to power in Bijāpur District about 550, and founded a kingdom spreading east and west across the Peninsula with their capital at Kalyāni. Pulikesin II (608–42) ruled practically the whole of India south of the Narbadā, and even came into contact with Harsha-vardhana of Kanauj. Throughout their period of supremacy, however, the Chālukyas were at war with the Pallavas, and their fortunes and dominions varied, though they continued to rule a large portion of Southern India to the middle of the eighth century, when they were displaced by the Rāshtrakūtas of Malkhed in Gulbarga District. About 973, the Chālukyan dynasty was restored, and for nearly 200 years maintained its position, in spite of fierce struggles with the Cholas and Hoysalas of Dorasamudra. The Chālukya power fell about 1189 to the Hoysalas and Yādavas, the latter of whom established themselves at Deogiri (Daulatābād). The Yādavas were the last great Hindu rulers of the Deccan, for the Vijayanagar kingdom, which was founded half a century after the advent of the Muhammadans, never acquired much sway in the Deccan proper.

Alā-ud-dīn Khiljī led the first Muhammadan expedition into the Deccan, in 1294, against the Yādava ruler of Deogiri and coerced him

into submission. In 1296 he assassinated his own uncle and seized the throne, and sent an expedition to Daulatābād. His first expedition was dispatched in 1303 against the Kākatīyas of Warangal, who had been established there since the middle of the twelfth century. This having failed, he sent a second under Malik Kāfūr in 1309, which resulted in the submission of the Rājā, and a promise to pay tribute. Ulugh Khān, who afterwards ruled at Delhi as Muhammad bin Tughlak, conducted a later campaign against Warangal, and finally broke the Kākatīya power in 1321, though not without a prolonged struggle. In 1310 Malik Kāfūr was sent against the Ballāla Rājā of Dorasamudra (Halebid in Mysore), who was made a prisoner and lost his capital, the spoils consisting of 600 elephants, 96,000 maunds of gold, quantities of jewels and pearls, and 20,000 horses. In 1318 Harpāl, the Deogiri ruler, rebelled, but was taken prisoner and executed, and with his death ended the Yādava dynasty, after a rule of about 130 years. When Muhammad bin Tughlak ascended the throne of Delhi in 1325, the Muhammadans were masters of the Deccan from north to south, the chief Rājās of Telingāna acknowledging their sway and paying tribute. He changed the name of Deogiri to Daulatābād and made it his capital. A few years later the imperial governors of the Deccan revolted. Their rebellion resulted in the alienation of the Deccan provinces and the establishment of the Bahmani dynasty.

Zafar Khān, who styled himself, according to some historians, Alā-ud-dīn Hasan Shāh Gangū Bahmani, or, according to a contemporary inscription, Alā-ud-dīn Bahman Shāh, founded this line; and having taken possession of the Deccan provinces, including Bīdar and Gulbarga, he made the latter place his capital and commenced to reign in 1347. The Bahmani kingdom extended from Berār in the north to the left bank of the Tungabhadra in the south, and from Dābal on the west coast to the Telingāna Districts in the east. Muhammad Shāh, who succeeded his father Alā-ud-dīn in 1358, waged wars with Vijayanagar (1366) and Warangal (1371), and acquired great booty from both. It is said that 500,000 Hindus were slain during his reign. He died in 1375 and was followed by his son, Mujāhid Shāh, whose uncle, Daud Khān, three years later, murdered and succeeded him, but was assassinated in the same year (1378). Muhammad[1], the grandson of Hasan Gangū, was proclaimed king and ruled peacefully to the time of his death in 1397. His son, Ghiyās-ud-dīn, only reigned two months when he was blinded and deposed by Lālchīn, a discontented slave, who proclaimed the king's brother, Shams-ud-dīn. Fīroz Khān and Ahmad Khān, the grandsons of

[1] Wrongly styled Mahmūd by Firishta, whose error has been unfortunately followed by many modern historians.

Bahman Shāh, who had been married to Ghiyās-ud-dīn's two sisters, rose against Shams-ud-dīn, and forcing their way into the *darbār*, made the king and Lālchīn prisoners. Fīroz was proclaimed king in 1397; Shams-ud-dīn was blinded after a reign of five months and Lālchīn was put to death. Fīroz marched against the Vijayanagar Rājā, who had invaded the Raichūr Doāb in 1398, and defeated him, bringing back much plunder. In 1404 the ruler of Vijayanagar advanced to Mudgal and war broke out between the two kingdoms; the Rājā was defeated and sued for peace, which was granted on the condition that he gave his daughter in marriage to the king, besides presenting a large sum of money, and pearls and elephants, and ceding the fort of Bankāpur as the marriage portion of the princess. In 1417 the king invested the fortress of Pāngal, and the Rājās of Vijayanagar and Warangal and other chiefs advanced to its relief at the head of a large force. Although Fīroz's army had been decimated by a pestilence which broke out among his troops, the king gave battle, but suffered a severe defeat. The Musalmāns were massacred, and Fīroz was pursued into his own country, which was laid waste with fire and sword. These misfortunes preyed on his mind and he fell into a lingering disorder, which affected both his spirits and intellect, so that he finally abdicated in 1422 in favour of his brother, Ahmad Shāh. Ahmad Shāh marched to the banks of the Tungabhadra and defeated the Rājā of Vijayanagar; peace was, however, concluded on the latter agreeing to pay arrears of tribute. In 1422 Ahmad Shāh sacked Warangal and obtained much plunder. He founded the city of Bīdar in 1430, and died there in 1435. In 1443 there was again war between the Vijayanagar Rājā and the Bahmani king Alā-ud-dīn II, in which the latter was defeated. Alā-ud-dīn was succeeded in 1458 by his son Humāyūn, 'the cruel.' Soon after his accession, he marched to Nalgonda to quell a rebellion which had broken out in his Telingāna provinces. Hearing of an insurrection at Bīdar, he left his minister to carry on the campaign and returned to Bīdar, and after putting to death thousands of innocent persons of both sexes his cruelties ended only with his own death after a reign of three and a half years. He was succeeded by his eldest son, Nizām Shāh, who died two years afterwards (1463), when his younger brother, Muhammad Shāh III, was crowned. The reign of this prince is notorious for the execution of the great minister, Mahmūd Gāvān. The king died in 1482, and was succeeded by his son, Mahmūd Shāh, who gave himself up to pleasure and dissipation; and the governors of provinces, seeing this state of affairs, acted independently, so that only Telingāna and adjacent Districts of Bīdar remained in the king's possession.

Kāsim Barīd now became minister, and induced the king to make war against Yūsuf Adil Khān, who had taken Bijāpur and declared

his independence. The Bahmani forces were defeated and the king returned to Bīdar. In 1504 Kāsim Barīd died, and his son, Amīr Barīd, becoming minister had the king completely in his power. About this time (1510) Yūsuf Adil Khān died, and Amīr Barīd attempted to reduce Bijāpur. After a reign of constant vicissitude and trouble, Mahmūd Shāh died in 1518. Though he was succeeded by his son, Ahmad Shāh, Amīr Barīd remained all-powerful. Ahmad Shāh died after a reign of two years, and his son, Alā-ud-dīn, was assassinated by Amīr Barīd. Two other kings, Wali-ullah Shāh and Kalīm-ullāh Shāh, succeeded one another in the course of five years, the latter dying in exile at Ahmadnagar in 1527; and with him ended the great Bahmani dynasty, which had reigned first at Gulbarga and then at Bīdar for more than 180 years.

Amīr Barīd assumed sole charge of the affairs of the kingdom; and after many vicissitudes and constant wars with the rulers of Bijāpur and Berār, he died at Daulatābād (1538), and was succeeded by his son, Alī Barīd, who was the first to assume the title of Shāh. In 1565 he, with the other Deccan kings, marched against the Vijayanagar Rājā, and the memorable battle of Tālikotā was fought, which sealed the fate of the kingdom of Vijayanagar. Alī Barīd died in 1582, and was succeeded by three other kings, the last of whom, Alī Barīd II, was expelled by a distant relation, Amīr, who continued to rule for some time after 1609, but it is not known exactly when and how his reign ended.

Kutb-ul-mulk, Sultān Kuli, a Turk of noble family, who was governor of the Golconda province under the Bahmanis, took advantage of the distracted state of the kingdom under Mahmūd Shāh and declared his independence, establishing the Kutb Shāhi dynasty, which reigned here from 1512 to 1687. Sultān Kuli waged wars with the Vijayanagar and Kammamett Rājās, and extended his kingdom in the north to the banks of the Godāvari. He defeated the Bijāpur forces near Koilkonda, and later on took Medak, Kaulās, and other forts from the Barīd Shāhi king of Bīdar. He was assassinated in 1543 at the age of ninety, while kneeling in prayer in the chief mosque at Golconda, at the instigation of his son Jamshed Kuli, after ruling for sixteen years as viceroy and thirty-one as king. He was succeeded by Jamshed Kuli (1543), Subhān Kuli (1550), and Ibrāhīm Kuli (1550). The last of these allied himself with the Ahmadnagar king against the ruler of Bijāpur, who had sought the alliance of Vijayanagar. In 1564 he proposed the alliance against the Vijayanagar kingdom, which led to the battle of Tālikotā. He died in 1581, and was succeeded by his son Muhammad Kuli. In 1603 Shāh Abbās, the king of Persia, sent an ambassador to Hyderābād with valuable presents. Muhammad Kuli was succeeded in 1612 by his nephew

and son-in-law Muhammad II, who died in 1626, and was followed by his son Abdullah.

When the Mughals invaded the Deccan, the local rulers formed an alliance against them; but after defeating the invaders, they fell out among themselves, thus enabling the imperial troops gradually to subdue the country. Shāh Jahān, after rebelling against his father, fled from Burhānpur and was welcomed at Golconda by Abdullah Kutb Shāh. In 1635 Shāh Jahān, who had then become emperor, sent a *farmān* to Golconda which was well received; the *khutba* was read in the name of the emperor in the chief mosque, and coins were also struck in his name. Mīr Jumla, the king's minister, appealed to Aurangzeb for help against his master in 1655, and this afforded a pretext for Aurangzeb to invade the territory. Hyderābād was plundered, and Abdullah sued for peace and paid arrears of tribute. He died in 1674, and was succeeded by his nephew Abul Hasan, also called Tāna Shāh. After the fall of Bijāpur in 1686, Aurangzeb turned his attention to Golconda, which was taken in the following year. Tāna Shāh was made prisoner and sent to Bīdar, and thence to Daulatābād, where he died in 1704, and with him ended the line of the Kutb Shāhi kings.

The house of the present Nizāms was founded by Asaf Jāh, a distinguished general of Aurangzeb, of Turkomān descent. After long service under the Delhi emperor, distinguished alike in war and political sagacity, he was appointed Sūbahdār or viceroy of the Deccan in 1713 with the title of Nizām-ul-mulk, which has since become the hereditary title of the family. The Mughal empire at this period was on the verge of decline, owing to internal dissension and attacks from without. Amid the general confusion, Asaf Jāh had little difficulty in asserting his independence against the degenerate and weak occupants of the throne of Delhi, but he had to repel the inroads of the Marāthās who were harassing the west of his newly acquired territory. His independence was the cause of much jealousy at Delhi, and the court party secretly instructed Mubāriz Khān, the governor of Khāndesh, to oppose him by force of arms. A battle was fought at Shakarkhelda (Fathkhelda) in the Buldāna District of Berār in 1724, when Mubāriz Khān was totally defeated and lost his life. This battle established the independence of Asaf Jāh, who annexed Berār, and fixed his residence at Hyderābād. At the time of his death in 1748 he was fairly established as independent sovereign of a kingdom co-extensive with the present State, including the province of Berār.

After his death, Nāsir Jang, his second son, and Muzaffar Jang, his grandson by one of his daughters, strove for the succession. At this time the English and the French were contending for supremacy in the East, and each of the claimants secured the support of one of these

powers; Nāsir Jang's cause was espoused by the English, while Muzaffar Jang was supported by the French. The latter, however, fell a prisoner to his uncle, but, on the assassination of Nāsir Jang, Muzaffar Jang was proclaimed the sovereign. Dupleix, the French governor, became the controller of the Nizām's authority. Muzaffar Jang was killed by some Pathān chiefs, and the French then selected Salābat Jang, a brother of Nāsir Jang, as ruler. Ghāzi-ud-dīn, the eldest son of Asaf Jāh, who, it was alleged, had relinquished his claim at first, now appeared as a claimant, supported by the Marāthās, but his sudden death put a stop to further struggles. The English and the French were now contesting power and influence in the Deccan; but the victories of Clive in the Carnatic caused the latter to turn their attention to their own possessions which were threatened, and to leave Salābat Jang to shift for himself. Nizām Alī Khān, the fourth son of Asaf Jāh, at this juncture obtained the support of the English on the promise of dismissing the French from his service. Salābat Jang was dethroned in 1761, and Nizām Alī Khān was proclaimed ruler.

In 1766 the Northern Circārs were ceded to the British, on condition that the Nizām was to be furnished with a subsidiary force in time of war, and should receive 6 lakhs of rupees annually when no troops were required, the Nizām on his part promising to assist the British with his troops. This was followed by the treaty of 1768, by which the East India Company and the Nawāb of the Carnatic engaged to assist the Nizām with troops whenever required by him, on payment. In 1790 war broke out between Tipū Sultān and the British, and a treaty of offensive and defensive alliance was concluded between the Nizām, the Marāthās, and the British. Tipū, however, concluded peace, and had to relinquish half of his dominions, which was divided among the allies. In 1798 a treaty was concluded between the Nizām and the British Government, by which a subsidiary force of 6,000 sepoys and a proportionate number of guns was assigned to the Nizām's service, who on his part agreed to pay a subsidy of 24 lakhs for the support of the force. On the fall of Seringapatam and the death of Tipū Sultān, the Nizām participated largely under the Treaty of Mysore (1799) in the division of territory, and his share was increased because of the Peshwā's withdrawal from that treaty.

In 1800 a fresh treaty was concluded between the Nizām and the British, by which the subsidiary troops were augmented by two battalions of infantry and one regiment of cavalry, for the payment of which the Nizām ceded all the territories which had accrued to him under the treaties of 1792 and 1799, known as the CEDED DISTRICTS. The Nizām on his part agreed to employ all this force (except two battalions reserved to guard his person), together with 6,000 foot and 9,000 horse of his own troops, against the enemy in time of war.

About 1803 Nizām Alī Khān's health was in a precarious condition, and Sindhia and Holkar, disappointed by the reinstatement of Bājī Rao, the last of the Peshwās, by the British, prepared to resort to arms. To meet the preparations made by the Marāthās, the subsidiary force, consisting of 6,000 infantry and two regiments of cavalry, accompanied by 15,000 of the Nizām's troops, took up a position at Parenda on the western frontier of the Nizām's Dominions. General Wellesley was ordered to co-operate with this force in aid of the Peshwā, with 8,000 infantry and 1,700 cavalry. But before the arrival of the General at Poona, Holkar had left, and on his way to Mālwā had plundered some of the Nizām's villages, and levied a contribution on Aurangābād. On hearing of this, Colonel Stevenson advanced towards the Godāvari with the whole force under him, and was joined by General Wellesley near Jālna. The next day (September 23) the memorable battle of Assaye was fought by General Wellesley, followed shortly afterwards by the battle of Argaon, which completely crushed the Marāthās, and secured the Nizām's territories.

Nizām Alī Khān died in 1803, and was succeeded by his son, Sikandar Jāh. In 1822 a treaty was concluded between the British and the Nizām, by which the latter was released from the obligation of paying the *chauth* to which the British had succeeded after the overthrow of the Peshwā in 1818.

On the death of Sikandar Jāh in 1829, his son Nāsir-ud-daula succeeded. In 1839 a Wahhābi conspiracy was discovered at Hyderābād, as in other parts of India. An inquiry showed that Mubāriz-ud-daula and others were implicated in organizing the movement against the British Government and the Nizām. Mubāriz-ud-daula was imprisoned at Golconda, where he subsequently died. Rājā Chandū Lāl, who had succeeded Munīr-ul-mulk as minister, resigned in 1843, and Sirāj-ul-mulk, the grandson of Mīr Alam, succeeded him. In 1847 a serious riot took place between the Shiahs and the Sunnis, and about fifty persons lost their lives in the riot. Sirāj-ul-mulk, who had been removed in the same year, was reinstated as minister in 1851. As the pay of the Contingent troops had fallen into arrears, a fresh treaty was concluded in 1853, and Districts yielding a gross revenue of 50 lakhs a year were assigned to the British. The Districts thus ceded consisted, besides Berār, of Osmānābād (Naldrug) and the Raichūr Doāb. By this treaty the British agreed to maintain an auxiliary force of 5,000 infantry, 2,000 cavalry, and four field batteries; and it was stipulated that after paying the Contingent and certain other charges and interest on the Company's debt, the surplus was to be made over to the Nizām. The Nizām, while retaining the full use of the subsidiary force and Contingent, was released from the unlimited obligation of service in time of war; and the Contingent ceased to be part of the

Nizām's army, and became an auxiliary force kept by the British Government for the Nizām's use. A week after the conclusion of this treaty Sirāj-ul-mulk died and Nawāb Sālār Jang, his nephew, was appointed minister.

Nāsir-ud-daula died in May, 1857, and was succeeded by his son, Afzal-ud-daula. This was a critical period for Hyderābād, as the Mutiny which convulsed the whole of India affected this State also. It was feared that, if Hyderābād joined the revolt, the whole of Southern India as well as Bombay would rebel. But though His Highness was urged by some of his reckless advisers to raise the standard of revolt, he listened to the good counsels of his faithful minister, Sālār Jang, and cast in his lot with the British with unshaken loyalty. After the storm of the Mutiny had subsided, the British Government, in recognition of the services rendered by the Nizām, modified the treaty of 1853; and by a treaty of 1860 Osmānābād (Naldrug) and the Raichūr Doāb, yielding a revenue of 21 lakhs, were restored, and a debt of 50 lakhs was cancelled, while certain tracts on the left bank of the Godāvari were ceded and the Assigned Districts of Berār, yielding a revenue of 32 lakhs, were taken in trust by the British for the purposes specified in the treaty of 1853. Presents to the value of £10,000 were bestowed upon His Highness, and his minister and other noblemen were also rewarded. Afzal-ud-daula was made a G.C.S.I. in 1861.

The present Nizām, Mīr Mahbūb Alī Khān Bahādur, succeeded on his father's death in 1869. Being only three years old, a regency was constituted for the administration of the country, with Sir Sālār Jang I as regent and Nawāb Shams-ul-Umarā as co-regent, the Resident being consulted on all important matters concerning the welfare of the State. On the death of the co-regent in 1877, his half-brother Nawāb Vikār-ul-Umarā was appointed co-administrator; but he also died in 1881, Sir Sālār Jang remaining sole administrator and regent till his death in 1883.

Not being fettered in any way, the great minister pursued his reforms with untiring effort. The four Sadr-ul-Mahāms or departmental ministers, who had been appointed in 1868, managed the Judicial, Revenue, Police, and Miscellaneous departments under the guidance of the minister, who, besides instructing them in their work, had direct control over the Military, *Mansab*, Finance, Treasury, Post, Mint, Currency, and State Railway departments. Transactions with the British Government, His Highness's education, and the management of the *Sarf-i-khās* domains also received his personal attention. A revenue survey and settlement were taken in hand and completed in the Marāthā Districts, civil and criminal courts were established, stamps were introduced, the Postal department was placed on a sound

basis, and the Municipal, Public Works, Education, and Medical departments received their due share of attention. Thus almost every department of the British administration was represented in the State, and worked with creditable efficiency under the guiding spirit of the great minister. In particular, the finances of the State, which had become greatly involved, were much improved.

In 1884 His Highness Mīr Mahbūb Alī Khān, having attained his majority, was installed by Lord Ripon. Sir Sālār Jang II was appointed minister, and was followed in 1888 by Sir Asmān Jāh. In 1892 a Code, known as the *Kānuncha-i-Mubārak* ('the auspicious code'), was issued for the guidance of the minister, and this was followed by the establishment of a Council composed of all the ministers of the State. In the following year Sir Vikār-ul-Umarā became minister, and several changes were effected in various departments of the administration. Mahārājā Sir Kishen Prasād Bahādur, the Peshkār, was appointed minister in 1901, and still holds that office.

In November, 1902, the Assigned Districts of Berār were leased in perpetuity to the British Government at an annual rental of 25 lakhs, a most important event in the history of the State.

Many objects and places of historical and archaeological interest are found scattered throughout the State. Among the most noteworthy are the caves of ELLORA, AJANTA, AURANGĀBĀD, and OSMĀNĀBAD (Dhārāseo). Of the numerous forts may be mentioned those at GOLCONDA, GULBARGA, WARANGAL, RAICHŪR, MUDGAL, PARENDA, and NALDRUG. Besides these, Hindu temples of various descriptions are found in every part of the State, some of them of great antiquity, such as the 'Thousand Pillars' temple at HANAMKONDA, and the temples at TULJĀPUR and AMBAJOGAI.

The oldest type of architecture is of a religious character, and is represented by the caves already mentioned, which belong to Buddhist, Jain, and Brāhmanical styles of architecture. Numbers of other caves are found at places of less importance. The temple at Hanamkonda, the temple and its ruined courtyard in the fort of Warangal, and numerous others, are good specimens of Hindu religious architecture. Among the most remarkable specimens of Musalmān architecture may be mentioned the mosque in the old fort of Gulbarga; the Mecca and Jāma Masjids, the Chār Minār, the Chār Kamān, the Dār-ush-Shifa (hospital), and the old bridge on the Mūsi, all in the city of Hyderābād; the tombs of the Kutb Shāhi kings near Golconda; those of the Bahmani and Barīd Shāhi kings near the city of Bīdar, and that of Aurangzeb's wife at Aurangābād. Besides these, there are numerous other examples of both Hindu and Musalmān architecture, now in ruins, such as the palaces of Golconda, Bīdar, Gulbarga, and Daulatābād.

The population returned at the Census of 1901 was 11,141,142. The total area is 82,698 square miles, and the average density of population is thus 135 persons per square mile; but excluding the capital it falls to 129. The density ranges from 184 to 141 in the thickly populated Districts of Bīdar, Medak, Gulbarga, Nalgonda, Nānder, Elgandal, and Raichūr; from 139 to 125 in Lingsugūr, Osmānābād, Indūr, Parbhani, and Atrāf-i-balda; and from 117 to 54 in the sparsely populated Aurangābād, Bhīr, Mahbūbnagar, Warangal, and Sirpur Tāndur Districts. Table I (p. 300) shows the distribution of population in 1901

Population.

The State contains 79 towns and 20,010 villages; and of the total population 1,132,109, or 10 per cent., were enumerated in urban areas. The chief city is HYDERĀBĀD, with a population of 448,466. The State contains four places with a population ranging between 20,000 and 50,000, 16 towns of 10,000 to 20,000, and 58 towns of 5,000 to 10,000. Of villages with a population of 2,000 to 5,000, there are 514; in 1,862 villages the population ranges from 1,000 to 2,000; 4,344 villages have a population between 500 and 1,000, and 13,290 villages have less than 500 inhabitants. Some of the places classed as towns, from the fact of their having 5,000 or more inhabitants, are really overgrown rural villages, while on the other hand many *tāluk* head-quarters, with decided urban characteristics, are reckoned as villages, from the accident of their falling short of that standard.

The average population of a village is about 500. *Garhīs* or walled villages are found all over the State, testifying to the necessity that existed, up to the beginning of the nineteenth century, of affording security against the depredations of marauders, and the constant fear of civil wars in those troublous times. The houses are usually built of mud with thatched roofs.

The population of the State, according to the two previous enumerations, had been (1881) 9,845,594 and (1891) 11,537,040. At the Census of 1891 it was found that number had risen in all Districts, with the single exception of Nānder, where there was a small decline. The total increase during the decade amounted to 17·18 per cent.; but the six Districts of Lingsugūr, Raichūr, Gulbarga, Mahbūbnagar, Nalgonda, and Warangal showed abnormal increases, ranging from 29 to 26 per cent. The first three Districts had suffered most severely from the famine of 1876–8, and were recovering from their depressed state when the first Census was taken in 1881; while the other three Districts had also been affected by the same cause.

The Census of 1901 showed a net decrease from the population of 1891 of 3·45 per cent., due to the famines of 1897 and 1900, and to the abnormally high mortality from plague and cholera during the latter half of the decade, notably in the Districts of Bīdar, Aurangābād,

Bhīr, Nānder, Parbhani, and Osmānābād, in which the loss varied from 13 to 20 per cent. Elgandal, Indūr, and Raichūr suffered less severely, the decrease ranging from less than one per cent. to about 5 per cent. In the remaining Districts of Atrāf-i-balda, Nalgonda, Warangal, Medak, Mahbūbnagar, Sirpur Tāndūr, Gulbarga, and Lingsugūr, population rose by about 10 per cent., including Hyderābād city.

The age statistics show the usual tendency to omit from enumeration females of ages ranging between 6 and 20. As elsewhere in India, girls exceed boys in number up to the age of 5. But after that age there is a fall in the number of females up to the age of 20, when the females again preponderate over the males. After the age of 30 a sudden fall is observed in the number of females, which continues up to the age of 60 and over, when the proportion of females again exceeds that of the males. Apart from the omission above alluded to, there is probably a real deficiency of females between 5 and 20 due to deaths caused by early marriage and childbirth. Another tendency exists, especially among the Hindus, to understate the age of unmarried girls after they have attained the marriageable age. The effects of famine may, however, be clearly traced in the age statistics, imperfect as they are. Thus, the Census of 1901 showed the number of children under the age of 5 to be less than that of children in the age periods 5–10 and 10–15.

No reliable vital statistics are available, though the police *pātels* are supposed to record births and deaths regularly. The effect of the famine of 1900 on the birth-rate has already been alluded to, and infant mortality must have been very great during the period of stress.

The most common ailment is fever, which accounts for half the total deaths. Diarrhoea, dysentery, and other bowel complaints, as well as small-pox, are the next commonest causes of death. Cholera and small-pox sometimes carry off many persons. The people do not, as a rule, appreciate the advantages of vaccination, but its value is gradually becoming known.

When plague invaded the State, the measures first adopted to stamp out the disease or arrest its progress consisted in evacuating infected houses and villages, and in disinfecting them. Camps were subsequently established at some frontier railway stations, where passengers were inspected and detained, and travellers from infected areas were kept under observation after leaving the camps.

Out of the total population in 1901, males numbered 5,673,629 and females 5,467,513. There were thus 964 females to every 1,000 males. The only Districts in which females exceed males are Nānder and Indūr, with 1,006 and 1,005 females, respectively, to every 1,000 males.

As regards civil condition, out of every 16 persons, roughly speaking, 8 are married, 5 unmarried, and 3 widowed. Of the male population, 46, 49, and 5 per cent. are single, married, and widowed respectively; while among females the proportions are 31, 50, and 19 respectively. These figures show that the married males and females are almost numerically equal, the difference being an excess of only 43,223 married males over married females. The unmarried males, however, number half as many again as the unmarried females, while widowed females are about four times as numerous as widowed males. From the evenness of the proportions of married males and females it is obvious that, as a rule, polygamy does not exist, though allowed by the two main religions. On the other hand, the large number of widowed females leads to the conclusion that a strong prejudice exists against widow remarriage, shared by even the inferior castes of Hindus, who in this matter follow the practice of the Brāhmans. Among the agricultural castes, however, widow remarriage is largely practised, being called *mohtūrat* or *mārmanu*.

Distributing the population of either sex in each main age period by civil condition, it is found that unmarried boys under the age of 10 years form 97 per cent., while among females of the same age the percentage of single girls is 89. In the next age period 10–15, the percentage of unmarried boys and girls is 86 and 40 respectively. Between 15 and 40, however, 71 per cent. of the males and 78 per cent. of the females are married. The following table shows the population according to sex and civil condition:—

	1891.			1901.		
	Persons	Males	Females	Persons.	Males.	Females.
Unmarried .	4,232,492	2,573,236	1,659,256	4,311,525	2,604,439	1,707,086
Married .	6,038,260	3,055,266	2,982,994	5,502,367	2,772,795	2,729,572
Widowed .	1,259,910	242,151	1,017,759	1,327,250	296,395	1,030,855
Unspecified .	6,378	2,476	3,902	...	...	...
Total	11,537,040	5,873,129	5,663,911	11,141,142	5,673,629	5,467,513

Telugu is spoken by 46 per cent. of the population, followed by Marāthī, which claims 26 per cent. Next come Kanarese and Urdū or Hindustāni, spoken by 14 and 10 per cent. respectively, so that these four languages claim between them nearly 97 per cent. of the total population. The Mārwārī dialect is spoken by 57,777 and Hindī by 28,767 persons, the former being the language of bankers and traders from Mārwār, and the latter of emigrants from Northern India. The Tamil-speaking population numbers 24,475, who belong mostly to the southern Presidency. Gondī claims 59,669 and Koya 15,895. The Gipsy dialects are spoken by 125,070 persons, the

Lamānī (Lambādī) or Banjārā alone claiming 120,394. Of the European languages, English is returned by 7,907 persons.

	Persons.	
	1891.	1901.
Chief vernaculars of the State:--		
Urdū	1,198,382	1,158,490
Marāthī	3,493,858	2,895,864
Kanarese	1,451,046	1,562,018
Telugu	5,031,069	5,148,056
Other languages	362,685	376,714
Total	11,537,040	11,141,142

The main groups of castes represented are 21 in number, divided into a large number of sub-castes.

The Kāpus or Kunbīs, the great agricultural caste in the State, number 2,953,000 persons, or 26 per cent. of the whole population. Next to the Kāpus in numerical strength are the Mālas or unclean castes, who number 1,584,000, or 14 per cent. of the total. The main group Māla includes the Mālas or Dhers and Mādigas of Telingāna, corresponding with the Mahārs and Māngs of the Marāthā tract; and though they occupy a very low position in the social scale, they play a most important part in the village economy. The other numerically strong castes are the Gollas (Dhangars) or shepherds, 832,400; the Brāhmans, 692,800; the Vaisyas or trading castes, 548,000; the Korwas, 533,600; the Sālas (weavers), 424,900; and the Gaundlas or toddy-drawers and liquor-vendors, 284,600. The Lamānis (Lambādis) or Banjārās, who are grain-carriers, number 172,300. Of the important aboriginal tribes, Gonds number about 55,000 and Bhīls 9,600.

The population comprises people of various religions, but only two, Hinduism and Islām, have any appreciable following, comprising 88·6 and 10·4 per cent. respectively of the entire population of the State. The followers of other religions are: Animists (65,315), Christians (22,996), Jains (20,345), Sikhs (4,335), and Pārsīs (1,463).

The Hindus have lost 4·3 per cent. since 1891, and it may be observed that the Hindu population has been steadily decreasing for the last twenty years. In 1881 they formed 90·3 per cent. of the population; in 1891 the percentage was 89·4; while in 1901 it was only 88·6. Unlike the Hindus, the Musalmāns are steadily increasing in numbers. During the last decade there was an increase of 17,084 persons, or 1·5 per cent. In 1881 Musalmāns formed only 9·4 per cent. of the total population, while they formed 10·4 per cent. in 1901.

Like the Musalmāns, the Christians have risen in numbers. During the last decade they increased by 2,567, or 12·6 per cent. The Jains

lost 7,500 persons, or 27 per cent., in the same period. A large increase was recorded between 1881 and 1891, which may be explained by the fact that some of them were returned as Hindus in the Census of 1881. During the last decade the Sikhs also decreased, while the Pārsīs showed a marked tendency to increase; their numbers, however, are still small.

The increase among the Musalmāns is partly due to proselytizing and partly to their fecundity; while the rise in the Christian population is chiefly due to the efforts of missionaries, and to a less degree to the influx of Eurasians in the army and the civil service or in the mercantile class. Europeans decreased by 914, numbering 4,347 in 1901, compared with 5,261 in 1891. The number of Eurasians rose from 2,507 in 1891 to 3,292 in 1901, while native Christians increased from 12,661 to 15,357. The following table shows the variation in the population classified by religion:—

Religion.	Persons.	
	1891	1901.
Hindus	10,315,249	9,870,839
Musalmāns	1,138,666	1,155,750
Christians { Native	12,661	15,357
Christians { Others	7,768	7,639
Others	62,696	91,557
Total	11,537,040	11,141,142

The first English public school in Hyderābād was founded by a clergyman of the Church of England about 1834, and was followed shortly after by another school opened by the Roman Catholic missionaries. Since then the latter mission has gradually progressed, with the result that it now has several schools and convents in various parts of the State. In 1901 the Catholic adherents were returned at 11,649. The Church of England supports two schools, and in 1901 had 6,813 followers. Among other missions working in the State may be mentioned the Wesleyans and the Baptists, with 1,468 and 885 adherents respectively. The former mission was established in 1880; and, as opportunity offered, its operations have been extended in the Districts lying principally to the north and north-east of Hyderābād city, with stations at Aler, Karīmnagar, Siddipet, Indūr, Medak, and Kandi. The mission carries on medical, educational, and evangelistic work, the principal medical establishments being at Medak, where there is a well-equipped hospital for women and children, with two branch dispensaries. With a few exceptions, all the schools in connexion with this mission are primary. Lace-making is taught at Secunderābād, Karīmnagar, and Siddipet, embroidery at Medak,

weaving at Siddipet, and cabinet-making at Indūr. The mission has 11 schools in various Districts, 6 of which are for boys. The American Baptist Telugu Mission commenced work at Secunderābād in 1875, and since then branches have been opened at Hanamkonda, Mahbūbnagar, Nalgonda, Suriapet, Jangaon, and Gadwāl. In 1902 a hospital was completed at Hanamkonda. The work of this mission is chiefly among the Telugu population, and none of its schools is of a higher grade than lower secondary.

Of the total population, 5,132,902, or 46 per cent., are supported by agriculture. About 32 per cent. are landholders and tenants, 9 per cent. agricultural labourers, and 5 per cent. growers of special products. These figures exclude those who are partly agriculturists, numbering 250,000. Personal, household, and sanitary services support 655,870 persons, or nearly 5·9 per cent. of the population; and the provision of food, drink, and stimulants supports 536,016 persons, or 4·8 per cent. Commerce provides a living for 427,974 persons, or 3·8 per cent. The preparation of textile fabrics and dress comes next, supporting 301,729 persons, or 2·7 per cent.; while the care of animals maintains 284,304 persons, or 2·5 per cent. Earthwork and general labour provide a livelihood for 1,434,259 persons, or 13 per cent.; and those leading an independent life number 410,394, or 3·7 per cent.

The staple food of the poorer classes consists chiefly of cakes of *jowār* and *bājra*, though in the Telingāna Districts rice is also used to a large extent. Along with the cakes are eaten curries made of vegetables and pulses, onions, oil or *ghī*, seasoned with tamarind or chillies or both. Musalmāns and Hindus alike eat goats' flesh. The Musalmāns in the country tracts, out of respect to the feelings and prejudices of their Hindu neighbours, do not indulge in beef; but the Musalmān inhabitants of towns and large villages have no such scruples. The Mālas, including Dhers, Chamārs, Mahārs, and Māngs, will eat the flesh of cattle which have died a natural death.

The ordinary form of dress for a villager is a *dhotī* or waistcloth, a short jacket or coat of cotton, a turban of red or white colour in the Marāthā Districts and always white in Telingāna, and a *kammal* or blanket which he almost always carries. The women wear a *sārī*, which is a piece of cloth 5 or 6 yards long and 4 feet broad, one end being fastened round the waist, while the other is carried over the head and shoulders, and covers the rest of the body. In addition to the *sārī*, the women wear a *cholī* or a short bodice. The dress described above is worn by Hindus and Musalmāns alike; but Musalmān women often wear a *lahnga* or petticoat, with a *cholī* and *dupatta*, the last covering the head and the body. Gond and Waddar females discard the *cholī* altogether, but wrap the end of the *sārī* round the upper part of the body.

The home of the common cultivator consists of three or four small rooms, the walls being of mud and the roof tiled or thatched, the rooms being built round a *bhavanti* or courtyard. The Dhers and other low castes, and the poorer classes of villagers, live in huts made of reeds and hurdles, plastered over with mud and cow-dung.

Hindus of the higher castes, such as Brāhmans, Rājputs, and Baniās, burn their dead, while the lower castes usually bury them. Among Musalmāns the dead are always buried.

There are very few amusements in which the cultivators indulge. In the evenings they gather at the village *chauri* and join in gossip or pass the time with their families, discussing the topics of the seasons and the crops. Occasionally they go to neighbouring markets or visit places of pilgrimages and fairs in the neighbourhood. Sometimes they enjoy the performance of mountebanks or strolling actors, and the recitation of religious poems is very popular.

The ordinary Hindu festivals are the Holī, the Divāli, the Dasara, the Nāgapanchamī, the Rāmnaumi, the Pitrapaksha, and the Sivarātrī. The Pola festival is celebrated everywhere, when the cattle are garlanded and decorated, and led through the village, accompanied by their owners. The Musalmān festivals are the Muharram, the Bakr-Id, the Id of Ramzān (feast after fasting month), the Shab-i-barāt, the Duāzdahum-i-sharif (anniversary of the Prophet's death), and the Yāzdahum. The Nau-roz or Persian New Year's day is also celebrated as a State holiday.

Among Hindus the joint family system prevails everywhere, but in most cases it is not maintained beyond one generation.

In the Marāthā Districts the name of a person is usually followed by the name of the village to which he originally belonged, as for example Dāda Korlekar, which means 'Dāda of the Korla village.' But in Telingāna the name of the village precedes the personal name, as Mātūr Yenka, which means 'Yenka of Mātūr village.' Marāthās and Brahmāns usually have three names, the first being the person's own name, the second his father's, while the third is the name of his family or village.

Agriculture.

The soils of the Hyderābād State may be divided into two main divisions. Those of all the Telingāna Districts may be classed generally under three kinds, black, red, and sandy; and those in the Marāthā Districts may be similarly classed in three divisions, black, red, and a mixture of the two. Locally, a number of varieties are distinguished in Telingāna. Thus, *utcha regar* is dark in colour and plastic when wetted, and consists chiefly of alluvium, with a good supply of lime and little silica. *Katta regar* is a stiff loam, containing less lime than *utcha regar* and little soluble matter. *Raura* is a good garden soil, containing 7 per cent.

of lime in a pulverized state. *Rauti zamīn* is also a garden soil, containing only 5 per cent. of lime. *Sola zamīn* is greyish in colour, and resembles *rauti zamīn*. It is used for the *ābi* rice crop, and is manured by herding cattle, goats, and sheep on it. *Chunaka regar* is a rough aluminous soil, containing 12 per cent. of lime, and is best suited for *jowār* and pulse. *Chauka regar* or *milwa* is a mixture of red and black soils, with very little lime. *Chalka* or *reva zamīn* is a finely pulverized reddish soil, with sand and traces of lime, and is well suited for rainy season crops. *Yerra chauka* is similar in every respect to *chalka zamīn*, but not so finely powdered. The Marāthwāra soils are called *regar* (black), *masab* (red), or *milwa* (mixture). The soils of the higher tracts are heavy and rich in alumina, while those found on the plains are light and loamy; but neither is of very great depth. Broadly speaking, they are derived from the disintegration of basalt and amygdaloid wacke, the former giving rise to the stiff black soil, and the latter forming a friable earth. But when the black soil is mixed with the light friable earth, the result is a rich loam, which is more retentive of moisture than the others.

The climate of the Marāthā Districts is generally hot and dry from March to the end of May, and temperate during the remaining months; while that of Telingāna is hot and damp from March to the end of September, and temperate for the rest of the year. More than three-fourths of the total rainfall, or about 23 inches, is generally received between June and September, the remainder falling between October and November.

Yellow *jowār*, *bājra*, sesamum, cotton, *tuar* and other pulses form the *kharīf* or monsoon crops; and gram, barley, cotton, and linseed are the chief *rabi* or cold-season crops. The total area of Government lands cropped in 1901 was 30,240 square miles, of which 94 per cent. was devoted to 'dry crops,' and 6 per cent. was irrigated.

In the Marāthā country only two crops are raised, the *rabi* and the *kharīf*; while in Telingāna there are five crops, the *ābi* and *tābi* for rice, and the *kharīf*, *rabi*, and *māghi* for 'dry crops,' the last being intermediate between the *kharīf* and *rabi*.

As regards Marāthwāra, the extent of the *kharīf* and *rabi* crops depends upon the rainfall. If the monsoon commences in June, *kharīf* crops are largely sown at the beginning of the season; but if the rains are late and the time for the *kharīf* sowing has passed, then more land is reserved for the *rabi*. In Telingāna, where there is a smaller extent of *rabi* lands, the *kharīf* sowing proceeds as late as July, closely followed by the *māghi* sowing. Certain kinds of rice may be sown in the *ābi* so late as the beginning of August, if the rains are late; and the *tābi* or hot-season rice crop is sown from December up to the end of February.

The cultivator begins preparing his land for the *kharīf* sowings in December or January, and for the *rabi* during the monsoon, whenever there is a break in the rains. The *regar* is ploughed with the large plough or *nāgar*, drawn by eight bullocks, only once in seven or eight years, the *bakkhar* or harrow being considered sufficient in intermediate years. The Telingāna soils, being mostly sandy and finely divided, require only slight ploughing and harrowing. The land is ploughed first in one direction, and the second ploughing is done at right angles to the first. The ploughing is repeated till the soil is perfectly pulverized and clean.

The land thus prepared is then ready to receive the seed; and after the first shower or two, on the breaking of the monsoon in June, *kharīf* sowings are commenced. In Telingāna, after a few good showers have fallen, the land for rice cultivation is ploughed by buffaloes and left for a few days. The seed, which has been soaked beforehand and has sprouted, is now sown broadcast in the fields and ploughed in. But in fields irrigated from large tanks, the preparation of the 'wet' lands begins even before the monsoon. For the *rabi* sowings, the land, which has been ploughed during the breaks in the rainy season, is sown in September or October, as at this time there are usually autumn showers which help the germination of the seed. For the *tābi* or hot-season rice crop, the land is first soaked with water from tanks and wells. The sowings proceed for two and even three months, from the beginning of December to the end of February.

The Marāthā cultivator has his *kharīf* and *rabi* crops weeded three or four times during the season; the Telingāna ryot, on the other hand, is generally careless, weeding both crops only once or twice. His attention is chiefly devoted to the rice crop, which pays him best, and he weeds that three or four times during the season.

Yellow *jowār*, *bājra*, and the rainy season rice ripen about December; and white *jowār*, gram, wheat, barley, and the hot-season rice ripen from April to the end of May.

Cotton is extensively raised in all the black-soil Districts, as well as in Telingāna, wherever there is a suitable soil for its production. The short-stapled variety is the only kind which the cultivator grows, as he finds it easiest to produce. In the Districts served by railways, cotton-ginning and pressing factories are taking the place of the old system of hand-ginning; and within the last four years several of these factories have been opened in those Districts, the railway having made it possible for the machinery required to be conveyed to parts where it was impossible to transport it in carts. Railway extension has also given an impetus to the cultivation of cotton and superior cereals.

Of the total population of the State in 1901, 5,132,902, or 46 per

cent., were supported by agriculture. Of these, 58,858 were land-holders or rent receivers, 3,454,284 were rent payers, 186,671 were farm-servants, and 836,972 were field labourers.

The principal crops in the Marāthā country consist of *jowār*, *bājra*, wheat, cotton, linseed, and pulses; and those in Telingāna are rice, yellow *jowār*, *bājra*, castor-seed, sesame, and pulses. The staple food of the people of Marāthwāra consists of *jowār*, *bājra*, and, to some extent, wheat; while in Telingāna, rice, *jowār*, and *bājra* are consumed. Pulses and inferior grains of many kinds are grown everywhere. Oilseeds include linseed, sesame (gingelly), *karar*, and castor-seed, the two last being grown very largely in the Telingāna Districts. Besides cotton, *san*-hemp and *ambāri* are the principal fibre-plants, while aloes and *bhendi* fibre are not unknown. Large quantities of chillies are grown everywhere, and *zira* (caraway) and *ajwain* (*Ligusticum Ajowan*) are also grown in the Districts of Bīdar, Atrāf-i-balda, and Sirpur Tāndūr. In 1901 the areas occupied by the several important crops and their percentages to the total area cropped were as follows:—

Crop	Area		Percentage	
Jowār	12,531	square miles, or	41.4	per cent.
Cotton	3,226	"	10.7	"
Bājra	2,487	"	8.2	"
Rice	1,358	"	4.5	"
Til (*Sesamum orientale*)	1,263	"	4.2	"
Wheat	914	"	3.0	"
Castor-seed	883	"	2.9	"
Gram	768	"	2.6	"
Linseed	612	"	2.0	"
Tuar	561	"	1.9	"
Karar	531	"	1.7	"
Maize	484	"	1.6	"
Kāla or *kangni*	425	"	1.4	"
Mūng (*Phaseolus Mungo*)	307	"	1.0	"
Kodro (*Paspalum scrobiculatum*)	177	"	0.6	"
Chillies	149	"	0.5	"
Tobacco	125	"	0.4	"

The yield per acre of different crops varies so much that it is difficult to give a fair average; the weight of rice, for instance, ranges between 3 cwt. and 23 cwt. per acre. An attempt, however, has been made to give an average from figures obtained from the several Districts. Raw sugar, 18½ cwt.; rice, 10¼ cwt.; *jowār*, 2½ cwt.; wheat, 2½ cwt.; *bājra*, 2¼ cwt.; *sāwān*, 2¼ cwt.; *kulthi*, 2 cwt.; castor-seed, 2 cwt.; gram, 1¾ cwt.; sesame, 1½ cwt.; linseed, 1⅓ cwt.; and cotton, 641 lb.

All the rice and sugar-cane fields are manured, the latter very heavily. The manure generally used is that obtained from the village cattle, and the sweepings from the village, and from leaves and branches of trees. *Jowār* and wheat in the *regar* receive no manure.

to Rs. 45, but in the Marāthā Districts they fetch from Rs. 50 to Rs. 150. Sheep and goats are sold at from Rs. 2 to Rs. 3-8 per head, and milch goats at from Rs. 7 to Rs. 20 or Rs. 25.

The last famine caused great mortality among cattle in the famine-stricken districts. Grazing lands have been set apart, but in dry seasons the grass in them is very poor. *Kadbi*, or *jowār* stalks, form the chief fodder supply, of which more than sufficient is raised in good years, and large quantities are stacked to meet requirements in times of scarcity.

Until recently (1897), a great horse fair was held annually at MALEGAON, in Bīdar District, at which a large number of horses and cattle were sold; but for several years past the fair has not taken place owing to the prevalence of plague. At Hyderābād there is an extensive horse mart. In every District weekly or monthly horse and cattle fairs are held.

The Marāthā country being composed of black soil, there is not so much necessity for irrigation as in Telingāna; the black soil has the power to retain moisture, which is further supplemented during the cold season by a copious deposit of dew, which supplies the crops with moisture sufficient for their growth and maturity. Where rice, sugar-cane, and garden produce are raised, the chief sources of supply are wells. The Telingāna soils being sandy, it becomes of paramount importance to store water; and for this purpose advantage has been taken of the undulating character of the ground. Dams have been thrown across the valleys of streams and gorges between hills, and rain-water which falls over a large catchment basin is thus collected, and made available for purposes of irrigation by means of sluices.

Besides the tanks and *kuntas* or ponds, irrigation is carried on by means of wells generally, and by means of canals and anicuts in certain districts. For rice, sugar-cane, and turmeric the land is constantly watered as long as the crops are standing, while *bāghāt*, or garden lands, require only occasional irrigation. Wheat and barley are usually sown near wells and are watered from them once a week. Across the Tungabhadra, in Lingsugūr District, a series of anicuts have been constructed to hold up the water, which is directed into side channels and is used for supplying tanks and lands along the banks of the river. There are several anicuts in a length of 30 miles on the Tungabhadra, the principal one being at Kuragāl, which extends completely across the river. All of these anicuts were built many years ago, and no statistics are obtainable regarding their cost. A new project is now under construction for taking water from the Mānjra river in Medak District for irrigation purposes and the supply of tanks.

The water from Government tanks is utilized for irrigating the 'wet'

lands, which pay a water tax. There are altogether 370 large tanks and 11,015 *kuntas* or ponds, besides 1,347 channels, in the State. The large tanks are maintained by the Public Works department, while the smaller ones, as well as *kuntas*, are in charge of Revenue officers; but since the introduction of the *dastband* system, *zamīndārs* and local officials and others have taken up some of the breached tanks, receiving a certain percentage for their maintenance after reconstruction. These, however, are mostly tanks of no very large size.

Most of the tanks—such as the Husain Sāgar, the Ibrāhīmpatan, the Mīr Alam, the Afzal Sāgar, the Jalpalli, and many other large tanks, as well as irrigation channels—were constructed by the former rulers or ministers of the State. The minor tanks are the work of *zamīndārs*. No complete record is available as to the actual capital outlay, but those constructed in recent years will be described in dealing with Public Works.

The land served by wells is irrigated by the old primitive method of lifting the water by means of large buckets drawn by bullocks. The total number of wells in the State is 123,175. Where any supply channels from a river or a perennial stream are constructed to carry water to tanks, the ryots sometimes bail out water on either side of the channel by means of hand-buckets called *bhurki* or *guda*, and so get a constant flow. Masonry wells cost between Rs. 400 and Rs. 600, and those lined with stone without any mortar between Rs. 200 and Rs. 300; such wells have two bullock runs and two buckets, and are capable of irrigating 4 to 5 acres of rice or sugar-cane, and 10 acres of garden land.

Rents, wages, and prices.

As *ryotwāri* is the prevailing revenue system throughout Hyderābād, the sum paid by the cultivator represents the land revenue, which will be dealt with later. In the case of deserted villages, which have been leased by the State, the holder is free to charge his tenants what rent he pleases, provided the rates do not exceed those previously paid to the State. The *pattadārs* or ryots, who hold directly from the State, sometimes sublet the whole or a part of their lands or take partners called *shikmīdārs*. The latter cultivate land in partnership with the *pattadārs*, and divide the produce and expenses in proportion to the cattle employed by each, the *pattadār* receiving from his co-sharer a proportionate amount of the State dues. If he sublets, the occupant frequently receives from his sub-tenant an enhanced rental for the land in money or in kind. *Ināmdārs* and non-cultivating classes usually let their lands. The non-cultivating occupant, if he be a money-lender and has purchased the occupancy right of the land, generally obtains a larger rent or share from his sub-tenant than the *ināmdār*, who, having no cattle of his own, is obliged

to let his land for a small share. The money-lender, on the other hand, supplies his sub-tenant with funds to purchase cattle and implements, and either charges interest or lets his land at rates far higher than he himself pays to the State. The latter system is very common in the Marāthā Districts, where land has acquired a much higher value since the settlement, and where the non-cultivating classes, mostly comprising money-lenders, form a much higher proportion of the population than in Telingāna.

No official returns of the prevailing rates of wages are available. Agricultural labourers and domestic servants may be taken as types of unskilled labour, and carpenters, blacksmiths, and masons as those of skilled labour. The former are paid from Rs. 30 to Rs. 36 per annum, besides receiving one meal a day, and a blanket and a pair of sandals every year. Sometimes the labourer borrows two or three years' wages from his employer for marriage expenses and undertakes to serve for a stipulated period at a reduced rate, the reduction representing the amount of interest on the sum borrowed. Wages are sometimes paid partly in cash and partly in kind. To persons hired by the day, wages are generally paid in grain, but in the case of cotton-picking the labourer gets a certain proportion of the quantity picked. Village artisans are usually paid in kind, and in some few instances partly in cash and partly in grain. When grain is dear, cash wages are substituted by the employer.

In the vicinity of towns cash wages are the rule; and wherever cotton-ginning and pressing factories are established, or mining industries developed, such as coal-mining and stone-quarrying, or railway and road construction are started, high cash wages are demanded, varying from Rs. 7 to Rs. 10 per month.

In times of scarcity wages fall considerably below the average, owing to the large number of labourers thrown out of employment. The favourable rates of assessment introduced since the last settlement have been conducive to much agricultural activity and a greater demand for labour, whereby wages have risen, and the labourer who got Rs. 30 per annum now demands Rs. 36. The same may be said of all other labourers, artisans, and domestic servants. The higher prices of food-grains have also contributed towards enhancement in the rates of wages.

In the absence of any regular record of prices, information specially collected has been embodied in Table III (p. 302). No records exist of prices prior to the construction of railways, but it is certain that prices were then much lower than now, because owing to the absence of means of transport only a small quantity of the grain produced was exported. The railways have made prices of grain uniform over large tracts; and in times of famine and scarcity in the neigh-

bouring Provinces the surplus grain of the country is exported, thus causing a rise in prices. During the famines of 1897 and 1899–1900 prices of grain were extraordinarily high, though, while grain was being imported for the relief of the affected areas, it was being largely exported from the other parts of the State to Provinces where large profits were probable. During the famine of 1899–1900, *jowār* sold at 5 seers per rupee in Aurangābād, at 3¾ seers in Bhir and Nānder, at 4¼ seers in Parbhani and Osmānābād, and at 5¼ seers in Bīdar. In Table III the price of salt is given for Hyderābād only, the prices in the country being almost the same.

Forests.

A total area of nearly 18,000 square miles is under forests, which are divided into three classes: the 'reserved' (5,184 square miles), the protected (4,408 square miles), and the open or unprotected (8,387 square miles). In the 'reserved' and protected forests, trees are under the control of the Forest department; but in the open forests only sixteen species are reserved: namely, sandal (*Santalum album*), teak (*Tectona grandis*), *shīsham* (*Dalbergia Sissoo*), ebony (*Diospyros melanoxylon*), satin-wood (*Chloroxylon Swietenia*), *eppa* (*Hardwickia binata*), *nallāmadi* (*Terminalia tomentosa*), *bijāsāl* (*Pterocarpus Marsupium*), *batta-gunam* (*Stephegyne parvifolia*), *somi* (*Soymida febrifuga*), *dhaura* or *tirmani* (*Anogeissus latifolia*), *kodsha* (*Cleistanthus collinus*), *sandra* (*Acacia Catechu*), *bhandāra* (*Adina cordifolia*), *mokab* (*Schrebera swietenioides*), and *chinnangi* (*Lagerstroemia parviflora*). The forests form six divisions—Warangal, Indūr, Nirmal, Mahbūbnagar, Aurangābād, and Gulbarga—the last two being in Marāthwāra, and the remainder in Telingāna. Each division is under an Assistant Conservator. The management of this department is guided by the Forest Act of 1899, which empowers the Conservator to exercise full control over 'reserved' and protected forests, and reserved species of trees in open forests. Timber is supplied to purchasers at prescribed rates, while cultivators receive free timber and fuel for agricultural implements and domestic purposes. Minor produce, such as grass, branches, and leaves, &c., is likewise granted free to the local ryots. Free grazing is also permitted, under certain restrictions. After meeting the local demand, timber of various kinds is exported to different parts of the State. Local railways and the military workshop are also supplied with timber, exploited and transported departmentally. No use is made of elephants nor are floating operations resorted to.

No special fuel and fodder reserves are maintained, but the grazing in the 'reserved' and protected forests is regulated by the department, and fees are collected either departmentally or through contract agency. Grazing rights in the open forests are auctioned annually by the Revenue department. In years of scarcity cattle are sent to the

forests, which are then thrown open to free grazing. Measures are adopted to prevent the destruction of trees for leaf fodder, and some attempts have been made to store fodder. Edible fruits, roots, and flowers are utilized during famines by the destitute and starving poor. Some of the valuable forests are protected from fire by making regular fire lines, prohibiting the carrying of inflammable materials, closing areas to grazing, and by the appointment of patrols and guards.

There are no special plantations of any economic value in the State. The following table shows the area of each class of forest in each forest division in 1901 :—

Forest Divisions	Area in square miles.			
	Reserved.	Protected.	Open.	Total.
Warangal	2,368	...	2,000	4,368
Indūr	907	644	2,980	4,531
Nirmal	700	3,307	2,000	6,007
Mahbūbnagar	800	322	547	1,669
Aurangābād	288	69	600	957
Gulbarga	121	66	260	447
Total	5,184	4,408	8,387	17,979

As the forest survey and demarcation have not been completed, the areas shown above are only approximate, and it is possible that as much as one-third of the total is really cultivated. The forests are not equally distributed in all parts, the two Districts of Osmānābād and Bhīr having no forest at all, while the forests in Karīmnagar (Elgandal), Warangal, and Adilābād (Sirpur Tāndūr) occupy half the area of the State lands. The Marāthā Districts are far less wooded than the Telingāna country. The figures given below show the average revenue, expenditure, and surplus of the Forest department for a series of years :—

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.
	Rs.	Rs.	Rs.	Rs.
Revenue	1,02,546	2,02,004	3,45,445	3,69,511
Expenditure	72,360	1,14,904	1,44,369	1,47,125
Surplus	30,186	87,100	2,01,076	2,22,386

The practice of shifting cultivation in forests, or *podc*, which was very common some years ago, is now strictly prohibited; but illicit clearances for temporary cultivation are sometimes made, and, when found out, departmental punishment is inflicted on the offenders.

Several grasses are known to possess economic properties. The

fibres of *mannakopri* and *modian* are extensively used for making ropes, for stringing cots, and for various agricultural uses. If properly treated, these might also prove suitable for manufacturing paper. Among other minor products, *mahuā* flowers are of importance as being generally used for distilling country liquor.

Mines and minerals.

The Hyderābād State is rich in minerals, chief among which may be mentioned the extensive coal-measures of WARANGAL and the gold-mines of LINGSUGŪR. The coal-field of Singareni was discovered by Dr. King of the Indian Geological Survey so far back as 1872. Active operations were, however, delayed till 1886, when the Hyderābād (Deccan) Company obtained a concession, and opened the mine at Singareni, which is the only mine profitably worked at present. Four distinct seams have been discovered in the Singareni field. The first varies in thickness from 30 to 50 feet, and is composed of alternating layers of coal and carbonaceous shale, the former being of tolerably good quality and supplying a fair steam coal. The second seam, lying about 100 feet below the first, consists of shaly coal. Similarly, the third seam, which is about 30 to 40 feet below the second, consists of a hard shaly coal; and as the coal these two contain gives 30 per cent. of ash, they have been abandoned as being of no commercial value. The fourth seam, called the King seam after its discoverer, consists of the most valuable coal, being semi-bituminous hard coal which does not coke but yields a good gas for lighting purposes. This is the seam which is now being worked. Its thickness is from 3 to 7 feet and its area about 9 square miles, and at the average thickness of 5 feet it is computed to contain no less than 47,500,000 tons of coal. The royalty paid to the State varies from 8 annas to R. 1 per ton. In 1896 the royalty realized was Rs. 1,25,000. The output of coal from the Singareni coal-field rose from 3,259 tons in 1887 to 144,668 in 1891, and 421,218 in 1901, and was 419,546 tons in 1904.

Gold occurs in Lingsugūr District, in the rocks of the transition series, in the Muski, Bomanhāl, and Sāgar formations. The total area of gold-bearing rocks in this territory, as proved by the Geological Survey of India and by the prospecting operations of the Hyderābād (Deccan) Company, is about 1,240 square miles. The first band of rock lies between the Tungabhadra and Kistna rivers, and is composed essentially of a schistose black hornblendic trappoid. This band was actively prospected in 1896–7 by the Hyderābād (Deccan) Company, and a subsidiary company has since been formed to work the quartz. The average yield here, it is alleged, has been an ounce to the ton, and certain specimens have yielded as much as 20 oz. to the ton, but this is rare. Want of water for working the stamps has hampered operations, but this difficulty has been got over by the construction of

an artificial reservoir. The next band is at Bomanhāl, extending from the left bank of the Kistna west of Sūrāpur for about 20 miles, and disappearing under the black cotton soil between the Bhīma and the Kistna. This band is not more than 3 miles in width and is chiefly composed of hornblendic schists. Undoubted traces of old workings have been found in this locality, and from this it is inferred that this band may yet prove profitable. The third band, that of Sāgar between Sāgar and Sūrāpur, is not of much importance.

Innumerable deposits of iron ore of varying qualities are widely distributed over the lateritic and granitic tracts of the State, while similar deposits have been discovered in the sandstone formations in the Godāvari and Wardhā valleys. In the tract situated between the Kistna and Tungabhadra rivers, hematite occurs in considerable quantities. The rocks of the Kamptee series, which are extensively developed between the Godāvari and Wardhā valleys, abound in hard ferruginous pebbles and clay iron ores, and are worked in the Chinnūr *tāluk* of Adilābād District. Jagtiāl, Nirmal, Warangal, Yelgarab, and other places are noted for their cast-steel cakes or disks, which were largely exported to distant parts.

From ancient times diamond mines have been worked in the alluvial deposits round about Partyāl, near the Kistna, as well as in other localities in the alluvial tract of the same river. The Partyāl diamond-bearing layer is about 10 to 16 inches thick, and is concealed by black cotton soil. Trials made in recent years by the Hyderābād (Deccan) Company, involving a considerable outlay, proved unsuccessful; only stones of very small size were found, the gangue having been worked out by the old miners.

Among other minerals found in the country may be mentioned mica in the Khammamett *tāluk* of Warangal; fine specimens of corundum and garnets in the Pāloncha *tāluk* of the same District; and a small deposit of graphite in the vicinity of Hasanābād in Karīmnagar (Elgandal) District. A copper lode has recently been discovered at Chintrāla in Nalgonda District, which promises to be remunerative. Excellent limestone is quarried at Shāhābād, between the Wādi Junction and Gulbarga on the Great Indian Peninsula Railway. These quarries are extensively worked on both sides of the line for a considerable distance. The limestone is of two colours, black and grey, the latter being the more abundant of the two, and taking a polish almost equal to marble. An extensive industry has been carried on, and the stone is not only being widely used for flooring purposes, but is exported outside the State also in large quantities for building purposes. In addition to the minerals already mentioned, red chalk and saline deposits are found.

Cotton-weaving is carried on in almost every *tāluk*; and *sārīs*, *dhotīs*,

and coarse cloth called *khādi* are woven by hand in every large village and used largely by the people, who find these, though coarse and unattractive in appearance, more durable than the goods made in mills. *Sārīs* of silk and other silk stuffs are made in Nalgonda, Raichūr, Mahbūbnagar (Nārāyanpet *tāluk*), Lingsugūr, Aurangābād, Indūr, Elgandal, and other Districts, some of these being of extra fine quality and very durable, and fetching very high prices. In later years the silk-cloth industry in Nalgonda has improved, where the Sālīs, a caste of silk-weavers, are doing good work. Their example is being followed by others of their caste in the adjoining Districts. Aurangābād and Paithan have been noted from olden times for their embroidery and gold and silver lace-work. *Kamkhwāb*, or cloth woven with silver and gold of superior quality, was once made at Paithan, but the manufacture is now practically confined to Aurangābād, where about a dozen looms are at work. Lately, the *himru* industry has considerably increased and patterns have been improved. This cloth is a mixture of silk and cotton producing different patterns, and the new varieties include imitations of Kashmīr shawls. The great advantage of this stuff is that it is washable. Other stuffs such as *elaicha* and *mashrū* are still made, the demand for these being very great. Muslin of a very fine texture is made in Nānder and Amarchinta, but this industry is unfortunately dying out for want of support.

Arts and manufactures.

Brocades of coloured silk and gold and silver thread of very fine quality are made at Aurangābād and Vaijāpur. *Tasar* silk is largely used for making scarfs, *sārīs*, and other silk fabrics. The *tasar* cocoons are gathered in the jungles of the southern and eastern Districts, the silk is made in exactly the same way as that obtained from cultivated cocoons, and a very durable silk cloth is manufactured from it at Warangal, Mathwāda, and Hasanparti in Warangal District, at Nārāyanpet in Mahbūbnagar District, and Kosgi in Gulbarga District. In the vicinity of the Pākhāl lake this silkworm abounds in the jungles, but the best description of *tasar* silk is manufactured at Nārāyanpet and at Mahādeopur in Elgandal District.

Warangal was formerly noted for its woollen and silk carpets and rugs, samples of which have been sent to European exhibitions, where they commanded a good sale. The use of aniline dyes, however, has caused much injury to the trade, owing to the fading of the colours. *Shatranjīs* of very good quality are made in the Gulbarga and Warangal Central jails, as also at many District head-quarters.

Aurangābād is noted for its silver-ware and silver ornaments. Bedstead legs, spittoons, *pāndāns*, and other silver articles used in marriages by the wealthy natives, are manufactured there in large quantities. Fine filigree and wire-work is done both in Aurangābād and Karīmnagar

(Elgandal), some specimens showing exceedingly delicate workmanship.

Bidri ware—so named from Bīdar town, where it is manufactured—consists of an alloy of zinc, copper, tin, and lead; and after the vessels, &c., are made, the surface is inlaid with silver and sometimes with gold, and finally turned and polished. The articles made are ewers, jugs, wash-hand basins, bedstead legs, *pāndāns*, betel-nut boxes, *hukkas*, spittoons, cups, and other kinds of vessels. Sometimes sword and dagger handles are also made of *bidri* ware. The work is very neat, delicate, and highly artistic, and the patterns are exceedingly good.

Sword-blades and other weapons were once extensively made in Hyderābād, Wanparti, Gadwāl, Kolhāpur, Jagdeopur, and other places, but they were not of so good a quality as those imported from Persia, which commanded high prices. The industry is dying out from the circumstances of the age. Inferior smooth-bore muskets used to be made in the city factory for the use of the police and irregular troops, but the factory has now been abolished. Daggers and knives used by the Arabs and other irregulars were formerly produced at Gadwāl, Jagdeopur, and other places near Hyderābād from Nirmal steel, but they are rarely made now.

The factory industries consist of ginning and pressing factories at Aurangābād and Jālna in Aurangābād District, Māzalgaon and Parlī in Bhīr District, Raichūr and Yādgir in Raichūr District, Lātūr in Osmānābād, Udgīr in Bīdar, and also in Warangal, Indūr, Parbhani, and Nānder Districts.

There are three spinning and weaving-mills in the State, employing 2,712 hands: namely, those of the Hyderābād (Deccan) Spinning and Weaving Company, near Hyderābād; the Gulbarga Mahbūb Shāhi Mills Company, at Gulbarga; and the Aurangābād Spinning and Manufacturing Company, in Aurangābād city. The first of these mills commenced work in 1877, while the others were opened in 1886 and 1889. Together they represent a capital of 31 lakhs. The following table shows the statistics of progress:—

	1880-1.	1890-1.	1900-1.
Number of mills	1	3	3
Number of looms	169	443	459
Number of spindles	14,958	50,713	49,465
Hands employed	583	2,236	2,490

Commerce and trade.

Regular statistics of trade are not maintained, but a general guide to the nature and direction of trade is obtained from the customs and railway returns. The principal exports are food-grains, cotton, linseed, sesamum, ground-nuts, castor-seed, indigo, oils, timber, cotton cloth, hides, cattle,

and coal; while the chief imports are mill-made cloth, yarn, raw silk, salt, refined sugar, dried fruits, betel-nuts, horses, cattle, silver and gold, copper and brass in sheets and utensils, iron, timber, mineral oil, and opium.

The State is divided, for the purpose of levying customs duties on articles entering or leaving the country by the ordinary trade-routes, into nine customs divisions, five of which—Naldrug, Jālna, Lingsugūr, Rājūra, and Kodār—deal exclusively with road-borne trade, while the remaining four—Hyderābād, Secunderābād, Warangal, and Gulbarga—deal with both rail-borne and road-borne traffic. Besides the places already mentioned, the following distributing centres are important: Aurangābād, Nānder, Parbhani, Hingoli, Parlī, Sūrāpur, Koppal, Lātūr, Raichūr, Seram, Shāhābād, Nārāyanpet, Sadāseopet, Siddipet, Indūr, Karkeli, Khammamett, and Edlābād. Complete statistics showing the quantities of exports and imports at each of these places are not prepared by the Customs department, as articles comprised in the customs tariff are alone registered. The railway returns show only the weight of rail-borne traffic.

In the absence of reliable statistics, it is impossible to estimate the amount of the internal trade of the State, but there is no doubt that it far exceeds the foreign trade. For the purpose of export, the produce of the country is collected from the interior at certain important centres. There is also a large interchange of commodities of local growth and production between adjoining Districts. The same agency that is employed for collecting the produce for export also performs the office of distributing imported articles to distant parts by means of carts and pack-bullocks. The trading castes are represented by the Jain Vānīs in the Marāthā Districts, by Lingāyat Vānīs in the Carnatic, and by Komatis in Telingāna, while Mārwāri traders are to be found in all the large villages. The village Baniā is a general tradesman, being grain-dealer, cloth-vendor, and banker. He it is who advances to the ryot the amount to enable him to meet the land revenue, and at harvest time takes charge of the produce, which he passes on to the agents of wholesale exporters at large centres or the nearest railway station.

Goods and commodities imported from British territory are brought in either by rail direct to important stations in the State, or in the case of frontier Districts, where there are no railways, by means of carts and pack-bullocks from commercial centres outside Hyderābād, such as Bārsi, Sholāpur, Ahmadnagar, Kurnool, Adoni, Bellary, Bijāpur, Jaggayyapeta, Bezwāda, Bhadrāchalam, Rājahmundry, and Chandarpur. The rail-borne imports are mostly from Bombay, and to a smaller extent from Madras. With regard to exports, the produce of the frontier Districts finds its way to the same centres, but that of the interior is carried to the nearest railway station, whence it is either

sent to Hyderābād or consigned to Bombay or Madras. The chief channels of trade are the Great Indian Peninsula Railway in the west and the south, and the Madras and East Coast Railways in the south and east. These are connected with the Nizām's Guaranteed State Railway, which traverses the State from Wādi in the west to Bezwāda in the east. The Hyderābād-Godāvari Valley Railway, which passes through the central and north-western Districts, connects the capital with Manmād in the Nāsik District of Bombay. Numerous feeder-roads in the interior convey commodities to and from the various stations on the State Railway. The principal exports to Bombay in 1903 consisted of linseed (46,466 tons), castor-seed (45,090 tons), other seeds (29,550 tons), hides and skins (527 tons), and miscellaneous including raw cotton (123,443 tons); the exports to Madras in the same year were linseed (5,233 tons), castor-seed (14,095 tons), other seeds (5,094 tons), hides and skins (3,136 tons), and miscellaneous (26,845 tons). The imports from Bombay consisted of cotton twist and yarn (7,541 tons), cotton piece-goods (5,194 tons), grain (13,632 tons), kerosene oil (8,522 tons), fruits and provisions (7,110 tons), iron (7,391 tons), tobacco (25 tons), and salt (33,848 tons); and from Madras, yarn (240 tons), piece-goods (451 tons), grain (47,688 tons), tobacco (2,062 tons), and fruit and provisions (1,703 tons); while from stations outside the two Presidencies the imports consisted only of grain (4,731 tons). The total exports by rail in 1901 amounted to 113,340 tons, and the total imports to 122,345 tons; and in 1903 they were 100,679 and 152,334 tons respectively. These figures are exclusive of the coal exported, the figures and value of which are shown below:—

1891 . .	81,882 tons . .	Rs. 7,66,270
1901 . .	343,945 " . .	Rs. 18,61,940
1903 . .	291,499 " . .	Rs. 17,58,444

Communications.

The south-western corner of the State is crossed for 137 miles by the broad-gauge line from Bombay to Madras. About 120 miles of this line belong to the south-eastern section of the Great Indian Peninsula, while the remainder is part of the north-western branch of the Madras Railway, the junction being at Raichūr. From Wādi on the Great Indian Peninsula Railway, the Nizām's Guaranteed State Railway runs east to Warangal and then south-east towards Bezwāda on the East Coast section of the Madras Railway. The total length of the main line is 310 miles, while two branches from Husain Sāgar to Hyderābād and from Dornakal to the Singareni coal-fields add 20 miles. The Hyderābād-Godāvari Valley Railway (metre gauge) runs for 391 miles north-west from Hyderābād city to Manmād on the north-eastern section of the Great Indian Peninsula Railway. The State thus contains 467 miles on the broad

gauge, all built before 1891, and 391 miles on the narrow gauge, opened between 1899 and 1901.

The Nizam's Guaranteed State Railway is owned and worked by a company under a guarantee from the Hyderābād State, and the same company works the metre-gauge line, capital for which was raised by the issue of redeemable mortgage debentures.

The total capital expenditure on the Nizām's State Railway to the end of 1904 was 4·3 crores, and in that year the net earnings were nearly 28 lakhs, or about 6½ per cent. on the outlay. The Hyderābād-Godāvari Valley Railway has cost 2·6 crores, and earned 7·7 lakhs net in the same year, or nearly 3 per cent.; but in 1901 and 1902 the earnings had been about 3¼ per cent.

With the exception of some roads in the immediate vicinity of Hyderābād city, none of the roads in the State can be considered as equal to roads described as first-class in British India, and even these are gravelled rather than metalled. Prior to 1868 there were trunk roads leading from Hyderābād to Sholāpur, Gulbarga, Kurnool, Masulipatam, Hanamkonda, and Nāgpur, some of which were originally constructed by the British military authorities to facilitate the movements of troops. They were eventually made over to the State about 1867.

The following are the principal roads: The Hyderābād-Nāgpur road runs due north, leaving the State at Pullara in Adilābād (Sirpur Tāndūr) District, 195 miles from the capital. This road is partly bridged and well maintained, and is passable at all seasons. The Hyderābād-Jālna road is 265 miles long, and proceeds via Bīdar, Udgīr, and Gangākher. Up to Bīdar, the road is good and practicable at all seasons, but beyond it is only a fair-weather road. A bridged road connects Hyderābād, via Homnābād and Naldrug, with the Sholāpur railway station; 180 miles long. Before the extension of the Great Indian Peninsula Railway beyond Sholāpur, this was the main road from Hyderābād to the Bombay side. The Hyderābād-Kurnool road is passable at all seasons and is 136 miles long. A branch from Jedcherla to the Kistna river, 60 miles in length, was constructed between 1879 and 1882. Another branch road starts from the sixty-ninth mile and proceeds by Makhtal to the Kistna station on the Great Indian Peninsula Railway, 42 miles, while a third extends to Raichūr, 55 miles. This last forms a part of the Hyderābād-Bellary road, with a total length of 158 miles. The Hyderābād-Masulipatam road, partly bridged and passable at all seasons, has a length of 116 miles in the State. From the sixtieth mile of this road the old Madras road branches off. A made road connects Hyderābād with Warangal, 91 miles, and proceeds thence to Mangampet on the Godāvari, 72 miles. The former section was constructed in 1868–71 and the latter in 1871–6.

The other principal roads are Hyderābād to Medak, 54 miles; Aurangābād to Nāndgaon on the Great Indian Peninsula Railway, 54 miles, 43 of which lie in the State; Aurangābād to Jālna, 39 miles; Aurangābād to Toka, 25 miles; Aurangābād to Bhīr, 72 miles; Bhīr to Ahmadnagar railway station, 70 miles, and then south via Parenda to the Bārsi Road station; Naldrug to Gulbarga, 52½ miles; Naldrug to Osmānābād (Dhārāseo), 32½ miles; Gulbarga to Sūrāpur, 60 miles; Raichūr to Lingsugūr, 55 miles, being part of the old road from Kurnool to Dhārwār; the Bhongir-Nalgonda road, 40 miles long; and the branch road from Homnābād to Gulbarga railway station, 36 miles. Many of these roads now serve as feeders to railway stations.

After the extension of the Great Indian Peninsula Railway beyond Sholāpur in the direction of Gulbarga and Raichūr, 13 feeder-roads were constructed with a total length of 382 miles; and when the Nizām's Guaranteed State Railway was opened from Secunderābād to Wādi in 1874, seven more feeder-roads were completed, totalling 97½ miles. Eleven years later the railway was extended from Secunderābād to Warangal, and thence to Dornakal, necessitating the construction of 13 new roads to serve as feeders to this section of the railway. Subsequently, at the request of the railway company, 15 roads, with a total length of 109 miles, were constructed as feeders to the Hyderābād-Godāvari Valley Railway.

In 1891 there were 1,241 miles of road under maintenance, costing 3 lakhs, while in 1901, 1,614 miles were maintained at a cost of -½ lakhs. The Local fund roads are not included in these figures. Improvements in the method of maintenance accompanied the increased grants in 1901, and portions of roads and bridges have been reconstructed.

In the interior of the State the only means of transport are pack-bullocks and the ordinary two-wheeled country cart drawn by a pair of bullocks. The majority of the carts are crude in appearance, but are constructed of well-seasoned wood by the village carpenter and blacksmith, and are very serviceable. They consist of a framework of wood, placed across a log, through which passes an iron axle, while the bullocks are yoked to a long pole attached to the log at right angles, below the framework. In the two longer side pieces are fixed uprights 2 feet high, secured by another piece of wood on top. The wheels have tires made from country iron.

The Hyderābād State maintains its own postal system for internal communications and issues stamps. State correspondence was conveyed by contractors for a stipulated amount from 1856 to 1869, in which year the State undertook the carriage of mails on a system devised by Sir Sālār Jang I. The *ghungru* service, or express post, seems also to have been introduced at the same time, but was abolished

in 1902 because of its cost, since at least two runners had to be kept at every stage.

When the State took over the direct management of the department in 1869, District and *tāluk* post offices were immediately established, numbering 125. The net income and expenditure in the first year were Rs. 16,100 and Rs. 2,45,000, respectively. The number of post offices was gradually increased, so that in 1892 they numbered 195, and the receipts and expenditure rose to Rs. 1,27,300 and Rs. 2,60,500 respectively. By 1901 the number of post offices had risen to 239 and the receipts were Rs. 1,57,700, while the expenditure had increased to Rs. 2,99,200. The receipts do not include income from the carriage of service covers, which are carried free of all postal charges. The amount which would have been realized from the conveyance of these during 1901 was estimated at Rs. 3,67,500. In 1901 mails were carried by runners over 3,882 miles of post lines, and by railways over 1,076 miles. The number of persons employed in 1881, 1901, and 1903 was 1,881, 2,177, and 2,140 respectively. The following table gives statistics of the operations of both State and British post offices in 1902–3:—

	State post.	British Indian post.
Number of post offices	248	38
Number of letter-boxes	289	64
Number of miles of postal communication	4,910¼	1,308
Total number of postal articles delivered	6,683,718	6,461,073
Letters	5,612,302	3,235,177
Post-cards	1,033,560	1,920,735
Packets (including unregistered newspapers)	...	525,807
Newspapers (registered as newspapers in the Post Office)	...	734,954
Parcels	37,856	44,400
Value of stamps sold to the public . Rs.	99,245	84,715
Value of money orders issued . Rs.	...	43,32,662
Total amount of savings bank deposits . Rs.	...	9,01,150

Famine.

The Nizām's Dominions, in common with other parts of India, are subject to periodical visitations of famine of a more or less severe character. It is recorded that 1629, 1659, and 1685 were famine years, while in the eighteenth century there were famines in 1713, 1747, and 1787. In the nineteenth century famine or scarcity was experienced at eleven periods: namely, 1804, 1813, 1819, 1846, 1854, 1862, 1866, 1871, 1876–7, 1896–7, and 1899–1900. There are no records of famine relief measures prior to 1876. In that year the rains failed, and the Districts affected were Lingsugūr, Raichūr, Gulbarga, Bhīr, and Osmānābād (Naldrug). In the Districts of Nalgonda and Mahbūbnagar (Nāgar Karnūl) there was no famine, but the distress caused by scarcity was severe. The whole of the

State, in fact, suffered, as prices of food rose very high, and famine-stricken people migrated from the affected Districts. Relief works were started in October, 1876, and were finally closed in November, 1877. During this period 6¼ million units were provided with work, and 2 millions were relieved in poorhouses. The cost of this famine, excluding remissions of land revenue, was 13¼ lakhs. In 1890 the rains again failed in parts of the southern Districts, in which relief was given by opening works and remitting revenue.

A more severe famine appeared imminent in 1896, but was fortunately averted by good rains in November, which saved the standing *rabi* crops. Although there was no famine, the distress was very severe in some parts, owing to heavy exports of grain to adjoining British famine-stricken territory, and to a local failure of crops. The whole of the Districts of Raichūr and Lingsugūr, and parts of Gulbarga, Osmānābād, and Bhīr, comprising an area of 10,278 square miles with a population of 1½ millions, were involved in distress and scarcity. In July, 1897, the affected area increased to 17,835 square miles, with a population of 2,400,000, but a sufficient fall of rain in August averted famine. The total expenditure on relief was 7¾ lakhs.

The rainfall received in 1899 was only 15½ inches, or less than half the usual quantity. In the Aurangābād and Gulbarga Divisions the later rains failed entirely, and the area affected in 1900 was 23,007 square miles with a population (1891) of 3,573,651. In addition to this, scarcity was felt in an area of 51,541 square miles with a population of 6,512,379. The *kharīf* crop in the famine Districts was estimated at 25 per cent. of the normal, and in the *rabi* the largest food-crop yielded not more than 12 per cent. The Census of 1901 showed a net decrease of 394,898 persons; and if a normal rate of increase be assumed, the total loss must have been nearly 1½ million persons, in spite of an expenditure on relief of more than two crores. In 1899 the Government of India lent two crores to the State, for expenditure on famine relief.

Raichūr, Gulbarga, and Lingsugūr are the Districts which are generally the first to suffer from a failure of rains, and are more liable to famine than any other part of the State. Failure of the monsoon rains means the failure of the *kharīf* crops, which provide about half the staple food-grains of the people; and if the late or autumn rains fail, the *rabi* crops also suffer, which means that besides his linseed and wheat the cultivator loses the whole of the white *jowār*, which forms the largest food-grain crop of the State.

The first indications of famine are a sudden rise in the prices of grain. If the crops fail in the neighbouring Districts or Provinces, there is a sudden influx of immigrants in search of work. Sometimes sufficient grain is produced for the local needs; but if there be famine

outside the country, grain is largely exported, resulting in high prices. This was actually the case in 1899–1900. The rains failed in 1899, and grain began to be exported largely to the Bombay Presidency, where 90,000 persons were on relief works by November 1, 1899.

The system of land assessment in the Marāthā or 'dry-crop' Districts was based on that of the Bombay Presidency, and no remissions are ordinarily given for a failure of crops. The famine of 1900 so affected the people that special orders were given for extensive remissions in this tract, and the total loss to Government under this head was not less than 45 lakhs. For the Telingāna Districts extensive irrigation schemes have been prepared, while in Marāthwāra the protective measures include the extension and maintenance of roads and the construction of wells. In times of famine food and rations are given to those able to work, and poorhouses are established for the infirm and decrepit. Loans are advanced to the ryots to enable them to purchase cattle, and cheap grain shops are opened for the relief of others.

Administration.

The present form of administration was prescribed by the original instructions issued by the Nizām in the *Kānūncha* (edict) of 1893, subsequently modified in some respects. According to these, the *Madār-ul-Mahām* or Minister is the chief controlling authority in the State. To assist him in the work of administration there are four Assistant Ministers: namely, Financial, Judicial, Military, and Miscellaneous, known as *Muīn-ul-Mahāms*. All questions of importance are referred to the Council, which is composed of the Minister as president and the *Muīn-ul-Mahāms* as members. Matters on which there is a difference of opinion between the Minister and an Assistant Minister may also be referred to the Council. Business disposed of by the Council is immediately reported to the Nizām, and the orders of the Council are carried out without awaiting His Highness's sanction unless he is pleased otherwise to direct.

The work is distributed as follows: The Financial Assistant Minister has charge of the departments of finance, mint, railways and mines, and stud. The Judicial Assistant Minister has under him the judicial department, jails, registration, medical, post office, and religious institutions. The Military Assistant Minister disposes of the work of the regular and irregular and the Imperial Service troops; and the Miscellaneous Assistant Minister has under him police, public works, education, municipalities, and sanitation. The Revenue department is directly under the Minister, who exercises control over the departments of land revenue, revenue survey and settlement, *inām*, customs, excise and *ābkāri*, forests, agriculture and commerce, and local funds. The Secretaries are responsible for the work of their departments,

both to the Minister and to the Assistant Ministers concerned. The number of Secretaries at present is as follows: (1) financial; (2) two joint for revenue work; (3) judicial, police, and general departments; (4) public works; (5) military secretary; and (6) the private secretary to the Minister. The financial department has charge of the accountant-general's office and the audit branch; and the public works department is under a Secretary with two Superintending Engineers for the Irrigation and the General Branches as executive officers. The other departments are as follows: the judicial, under the High Court, consisting of a Chief Justice and five Puisne Judges; the District police and jails, under an Inspector-General; the city police, under a Kotwāl; customs, under a Commissioner; education, under a Director; stamps and mint, under a Superintendent; forests, under a Conservator; postal, under a Postmaster-General; and the medical, under a Director.

Until lately the whole State, excluding the *Sarf-i-khās* or Crown District of Atrāf-i-balda, was divided for administrative purposes into four *Sūbahs* or Divisions, 15 Districts, and one *Amaldāri* or sub-District. In 1905 certain changes were made in the constitution of the Districts; and though the number of *Sūbahs* remains the same, one District (Lingsugūr) has been broken up, and the *Amaldāri* has been made a District, so that there are still 15 Districts. Each *Sūbah* or Division is under a Sūbahdār (Commissioner), and each District under a First Tālukdār (Collector). The latter officers have two or more assistants, known as Second and Third Tālukdārs. At the head of each *tāluk* is a *tahsīldār*. There are now 101 *tāluks*, managed by Government, instead of 117 prior to the recent changes. Excluding the Atrāf-i-balda or Crown District, but including all the *jāgīrs* and *samasthāns*, each of the four *Sūbahs* had an average area of 19,825 square miles and an average population of 2,567,993 in 1901. Exact details of the areas as reconstituted are not available, and the following particulars are based on the statistics of 1901. The average District area and population were 4,956 square miles and 641,998 persons, respectively. These were subdivided into 117 *tāluks*, with an average area of nearly 678 square miles and 87,794 persons. The *tahsīldār* has charge of the revenue and the magisterial work of his *tāluk*, with a *peshkār* (assistant) and a *girdāvar* (revenue inspector) to assist him in his work. The last class of subordinates is found only in the Telingāna Districts, where remissions are given on 'wet' cultivation in case of excessive or scanty rainfall, or breach of tanks; it being the duty of the revenue inspector to verify and report the extent of the injury thus caused.

The headman of the village is called *pātel* and the village accountant *patwāri*, *karnam*, or *kulkarni*; there are generally two

pātels in villages the revenues of which exceed Rs. 500, the *māli* or revenue *pātel* and the police *pātel*. Up to 1870, the *pātels* and *patwāris* enjoyed *ināms* or grants of land in payment of their services; but since that year the *ināms* have been resumed and cash payments introduced, the *inām* lands, after assessment, remaining in their possession as before.

Besides the ordinary territory of the State, large areas are held as estates, known as *samasthāns* or *jāgīrs*. The most important *samasthāns* are those of GADWĀL, AMARCHINTA, WANPARTI, JATPOL, and PALONCHA; the smaller being Gopālpet, Nārāyanpur, Anegundi, Gurgunta, and the Medak *samasthāns*. These are scattered all over the southern half of the Dominions. The largest *jāgīrs* are those of Nawāb Sālār Jang, the three *paigāh* nobles, Mahārājā Sir Kishan Prasād Bahādur, Nawābs Hisām-ul-mulk and Fakhr-ul-mulk Bahādur, Mahārājā Sheorāj, and Rājā Rai Rayān Bahādur. The *jāgīrs* are dispersed in all parts of the State. Besides these large *jāgīrs*, there are numerous smaller ones containing from one village to 60 villages. In 1901 *jāgīrs* and *samasthāns* covered an area of 24,400 square miles, with a population of 3,259,000. Separate articles explain the constitution of the PAIGĀH ESTATES, the SĀLĀR JANG ESTATE, and the *samasthāns*.

Legislation and Justice.

In 1870 Sir Sālār Jang I, then Minister, appointed a committee of Muhammadan lawyers to frame laws for the State on the model of those enacted in British India. Later on, the Council of State, composed of the principal nobles, with the Nizām as president, became a Legislative Council also; and to supplement its labours, and prepare drafts of bills for its consideration, a special committee was nominated. In 1890 a Law Commission, with a president and a secretary, was appointed. The president was required to tour in the State, and lay his notes of inspection before the Commission, to enable it to prepare and submit drafts of laws required, in such form as to admit of their being finally cast into a Code. Reports were to accompany these drafts, explaining the existing laws, the defects observed in their working, and the proposals for removing those defects. The High Court was also directed to submit, for the information of the Commission, the drafts of any laws it might have under consideration, and to communicate any matters for which, in its opinion, new laws or amendments of existing laws were necessary. Other officers also were requested to communicate to the Judicial Secretary their opinions as to any reforms they might consider necessary in existing laws.

His Highness's attention having been directed to the desirability of establishing a Legislative Council for the purpose of making laws, orders for its establishment were promulgated in 1893. Under these

orders the Council was to consist of the Chief Justice, a Puisne Judge of the High Court, the Inspector-General of Revenue, the Director of Public Instruction, the Inspector-General of Police, and the Financial Secretary. In 1894 Act I of 1304 Fasli received the Nizām's sanction, recognizing the right of the people to share in the work of framing laws and to representation. In 1900 this Regulation was re-enacted with certain modifications as Act III of 1309 Fasli, and is still in force.

The Council at present consists of 19 members, of whom, besides the president and vice-president, 11 are official and 6 non-official members. The Minister is the president, and the Assistant Minister, whose department is concerned with a bill before the Council, is vice-president for the time being. Of the 11 official members, the Chief Justice, the Judicial Secretary, and the Legal Adviser are *ex-officio* members, the remaining 8 official members being nominated by the Minister for two years. Of the 6 non-official members, 2 are elected by the *jāgīrdārs* and landowners, 2 by the pleaders of the High Court, and the remaining 2 are nominated by the Minister from among the residents of the State, of whom one must be nominated from the *paigāh ilāka*. The non-official members are appointed for two years, but retiring members are eligible for re-election.

To ensure facilities for ascertaining public opinion, the Council Regulation provides that bills, with the statements of objects and reasons, shall be published in the *State Gazette* in such language as the Council directs. Bills are based on Muhammadan jurisprudence, the Hindu Shāstras, special laws binding on a particular community, or customs and usages having the force of law. In addition to these sources, laws in force in British India and elsewhere are consulted.

In 1304 Fasli (1894) Act I already referred to was passed. In 1305 Fasli (1895) five Acts were passed, Act II being the Gambling Act. In 1307 Fasli (1897) six Acts were passed relating to Oaths, Criminal Tribes, Succession Certificates, Court Fees, Court of Wards, and Labour Contracts. The six Acts passed in the following year dealt with amendments to the District Police and Stamp Rules, General Clauses, Public Demands Recovery, Opium, and Legal Practitioners. Of the thirteen Acts of 1309 Fasli (1899), the Army, the Local Cess, the Game Preservation, the Post Office, the Finger Impressions, the Land Acquisition, the Inventions and Designs, the Forest, and the Counterfeit Coins Acts are the more important. The principal Acts of 1310 Fasli (1900–1) were the Census, the Weights and Measures, and the Limitation Acts. In 1903–4 the Hyderābād Criminal Procedure Code, the Evidence Act, and an Act for Prevention of Cruelty to Animals were passed. The most important of the six Acts passed in 1904–5 were amendments to the High Court Regulations and to the Stamps

Act, the Ferries Act, and an Act for inquiry into the behaviour of public servants.

For the administration of justice there are 123 civil and 271 criminal courts, including the High Court. *Tahsīldārs* can try suits up to a limit of Rs. 100, but only seventy-nine *tahsīldārs* and five *naib-tahsīldārs* exercise these powers; where Munsifs are appointed, the *tahsīldārs* have no civil jurisdiction. There are fifteen Munsifs who try suits up to Rs. 500, while the Nāzim-i-Dīwāni or District Civil Judge and the Judicial Assistants to the First Tālukdārs can try suits up to Rs. 5,000, except in the Medak *Sūbah* (Division), where the limit is up to Rs. 10,000. Only five First Tālukdārs exercise civil powers, and they can try suits without any limit to the amount involved. The Nāzim-i-Sūbah or Divisional Judge tries suits of Rs. 5,000 and upwards. Appeals from the *tahsīldārs* or Munsifs lie to the Nāzim-i-Dīwāni or to the First Tālukdārs wherever they have civil jurisdiction; and those from the Nāzim-i-Dīwāni or First Tālukdārs lie to the Nāzim-i-Sūbah. There being no Divisional court in the Medak *Sūbah* (Division), the appeals from the District civil courts lie to the divisional bench of the High Court. In the city of Hyderābād, the Small Cause Court tries suits up to Rs. 5,000 and hears appeals from the Subordinate Judges of the same court up to Rs. 500. All appeals from the City Small Cause Court and from the Nāzim-ī-Sūbah or Divisional Judge lie to the divisional bench of the High Court. In civil cases up to a value of Rs. 300, in which the District court agrees with the decision of the subordinate court, there is no appeal and the decision is considered final, but revision is permissible on points of law. Similarly in suits up to Rs. 500 decided by the Subordinate Judges of the Small Cause Court, and upheld by the Judge of that court, there is no appeal, but the judgements are subject to revision on the original side of the High Court.

In criminal cases the *tahsīldārs* and the Second and Third Tālukdārs exercise, respectively, third and second-class magisterial powers, and the First Tālukdārs, being the chief magistrates of the District, are first-class magistrates. Appeals from the *tahsīldārs* and the subordinate Tālukdārs lie to the First Tālukdār, and from his decision to the Nāzim-i-Sūbah or Divisional Judge. In criminal cases, except trials for murder, if the fines inflicted do not exceed Rs. 500, the decision of the Nāzim-i-Sūbah is considered final, but revision on points of law is allowed. In all other cases appeals lie to the divisional bench of the High Court, and its decision is final. Appeals from cases in which subordinate magistrates in the city have given sentences not exceeding three months' imprisonment or a fine up to Rs. 100 are heard by the Chief City Magistrate; but appeals from cases in which imprisonment or fine above those limits have been inflicted are heard by the High

Court. On its original side the High Court exercises the powers of a Sessions Judge. The divisional bench has power to sentence up to fourteen years, but sentences of imprisonment for life are sent by the High Court to the Minister for confirmation. Sentences of death are submitted to the Nizām. Many of the holders of large *jāgīrs* and *samasthāns* exercise judicial powers, both civil and criminal, within their respective domains, and are required to submit periodical returns regarding their judicial work to the Judicial department of the State.

No extraordinary increase has been observed in civil suits, but in years of famine and scarcity their numbers decrease. On the other hand, criminal cases increase in proportion to the severity of the season. Regular statistics began to be collected in 1885, and judicial reports were prepared from that year. The following tables show what particulars are available:—

CIVIL JUSTICE

Classes of suits.	Average for six years ending 1890.	Average for ten years ending 1900	1901.	1905.
Suits for money and movable property	12,855	12,787	11,913	11,076
Title and other suits	1,535	2,441	2,280	2,436

CRIMINAL JUSTICE

	Average for six years ending 1890.	Average for ten years ending 1900.	1901	1905.
Number of persons tried:				
(*a*) For offences against person and property	7,373	6,062	6,276	6,660
(*b*) For other offences against the Indian Penal Code	36,043	31,882	29,599	16 356
(*c*) For offences against special and local laws	742	4,347	7,632	6 762

The increase in the number of offences against special and local laws is due to the fact that, almost up to the close of 1890, municipal cases were not heard by the criminal courts.

A Registration department was established in 1889, and placed under the High Court, and an Act was passed in the same year to regulate operations. From 1890 to 1895 the department was supervised by the Excise Commissioner, after which it was again made over to the High Court. In 1897 an Inspector-General of Registration and Stamps was appointed, and the department was placed under his charge. In 1899

paid registrars were appointed in the Districts of Aurāngābād, Bhīr, Osmānābād, Atrāf-i-balda, Raichūr, and Gulbarga; but in the other Districts and *tāluks* revenue and judicial officers were entrusted with the work, who receive a moiety or two-thirds of the fees. The work in Hyderābād city is in charge of a city registrar.

In 1891 there were 18 registrars and 107 sub-registrars, and the number of documents registered was 16,956. The average number of documents registered in the decade ending 1900 was 18,465. In 1901 there were 20 registrars' and 121 sub-registrars' offices, the number of documents registered being 15,826. In 1903 there were 20 registrars' and 122 sub-registrars' offices, and the number of documents registered was 12,033.

Finance.

The statistics of revenue and expenditure, shown in Tables V and VI (p. 304) and discussed in this article, do not extend to the *Sarf-i-khās* or Crown lands, the *paigāhs* and *jāgīrs*, which together make up a third of the whole area of the State. Subject to this limitation, the total revenue averaged 327 lakhs between 1881 and 1890, 383 lakhs between 1891 and 1900, and was 417 lakhs in 1901 and 469 lakhs in 1904. The chief source, as usual, is land revenue, which in 1904 yielded 243 lakhs, or 51 per cent. of the total. Customs (56½ lakhs), excise (58 lakhs), and railways (36 lakhs) are also items of considerable importance. The last of these, which entailed a net loss in the twenty years ending 1900, now yield a profit. The rise in revenue, in spite of unfavourable years, points clearly to the improvements which have been made in many branches of the administration.

While the revenue has expanded, the expenses of the State have also increased largely, amounting to an average of 316 lakhs between 1881 and 1890, 402 lakhs in the next decade, 411 lakhs in 1901, and 450 lakhs in 1904. Charges in respect of collection include refunds of various classes; part of the salaries of District officers and their establishments, the remainder being debited to law and justice; survey and settlement; the *inām* department; payments to village headmen and accountants; *dastband* or payments for the maintenance of irrigation tanks; and the cost of establishments for collection of customs and forest dues, excise and opium fees, manufacture and vend of stamps, and registration. These charges amounted to 56 lakhs in 1904.

The item 'general administration' includes the salaries of the Minister and the Assistant Ministers, the cost of establishments in all the head-quarter offices, and the pay and establishment charges of the four Sūbahdārs. A considerable increase has been made in the allotments for law and justice (including jails), police, education, and medical charges. The expenditure on pensions includes a variety

of charges, most of which are decreasing, though the head 'service pensions' is responsible for an increase, due to the improvement in the position of officials of the State. The miscellaneous charges include expenditure on famine relief, and have thus risen largely. The loan of two crores, already referred to, together with interest at 4 per cent., is being gradually paid off, partly from the State balances and partly by appropriation of a portion of the rent paid by the British Government for Berār.

The current coin of the State is known as the *Hāli sikka*, and the quantity in circulation has been reckoned at about 10 crores. The issue of the *Hāli sikka* began in 1854, when the first Sir Sālār Jang was Minister, and has continued with occasional interruptions. Free coinage was allowed in the mint up to 1893, but after that date comparatively little silver was coined. The stock of rupees in circulation became somewhat depleted; and the rate of exchange between the State rupee and the British rupee, after fluctuating violently in 1901 and 1902, has since remained fairly steady, the former exchanging at about 8 per cent. above its bullion value. In 1904 an improved coin of a new design was minted, known as the *Mahbūbia* rupee, representing on one side the famous Chār Minār building, which stands in the centre of Hyderābād city; since this new rupee was issued, the supply has been regulated so as to prevent serious fluctuations of exchange value. The rate now stands at between 115 and 116 to 100 British rupees. The copper coins issued by the State were till recently oblong pieces of about 2 pies in value. Since 1905, however, copper coins of a better pattern have been issued from the Hyderābād mint, representing the same value. Half-anna coins are also being made. The old coins are still in use, and will remain in circulation until a sufficient quantity of the new coins has been produced.

Land revenue.

The common system of land tenure throughout the State is *ryotwāri*. All the nine Districts of Marāthwāra and four of the Telingāna Districts have been surveyed and settled according to this system; they are Aurangābād, Bhīr, Nānder, Parbhani, Gulbarga, Osmānābād, Raichūr, Lingsugūr, Bīdar, Nizāmābād (Indūr), Medak, Mahbūbnagar, and Warangal. Of the remaining four Districts, Karīmnagar (Elgandal) and Nalgonda have been surveyed and partly assessed. Adilābād (Sirpur Tāndūr) and the Crown District of Atrāf-i-balda have not yet been surveyed. In the earlier settlements the period of settlement was for thirty years, while those surveyed later were settled for fifteen ye. rs. Revision work has been commenced in some of the latter class, where the terms have expired or are about to expire.

Under the *ryotwāri* system each field is considered a holding, which

the ryot holds directly from the State, and the holder or occupant of the field is called the *pattadār*. The right of occupancy depends on the regular payment of the assessment by the *pattadār*, and in case of failure to meet the demand he forfeits his right. In such a case the land reverts to the State, and the right of occupancy is sold by auction to satisfy the demand for arrears. The period of holding is nominally one year, but if the holder pays the assessment and dues regularly, he may retain his land indefinitely. A *pattadār* may relinquish his land by giving due notice of his intention, or he may sell or transfer his right if he chooses to do so. Reference has already been made, in dealing with rents, to the practice of subletting or taking partners (*shikmīdārs*).

The other systems of tenure are known as *jāgīr*, *inām*, *makta* or *sarbasta*, *peshkash*, *agarhār*, and *ijāra*. A *jāgīr* is a free grant of one or more villages, and the tenure may be classed under four heads: *al-tamghā* or *inām-al-tamghā*, which are grants of an hereditary or permanent nature; *zāt jāgīrs*, or personal grants for the maintenance of the grantees; *paigāh jāgīrs*, or grants to the nobles of the State for maintaining troops for the Nizām; *tankhwāh-i-mahallāt*, or grants in lieu of certain local payments that were binding on the State. The *inām* lands are granted for service or charitable purposes, either free of revenue or subject to a quit rent. *Makta* or *sarbasta* resembles the *jāgīr* tenure, except that the holder has to pay a certain fixed proportion of the revenue to the State; it is also known as *pālampat* in the Marāthā Districts. Under the *peshkash* tenure villages are granted on a fixed assessment, like the *zamīndāri* tenure in Northern India; all the *samasthāns* in the State are held under this tenure. *Agarhār* is a free grant of one or more villages for the upkeep of Hindu temples. *Ijāra* is a lease granted for a whole waste village for a term of thirty or forty years. The *ijāradār* or lessee pays no rent for the first three or five years; after that he begins to pay a fraction of the full assessment, varying from one-tenth to one-fifth, and increased every year till the full assessment is reached, which is paid till the lease expires.

In 1901 there were 13,039 *ryotwāri*, 2,904 *jāgīr*, 664 *makta* or *sarbasta*, 681 *peshkash*, 415 *ijāra*, 309 *agarhār*, and 1,006 deserted villages in the State; and the revenue derived from the *ryotwāri*, *makta*, and *peshkash* villages was 191 lakhs, 6·7 lakhs, and 139 lakhs respectively.

The assessment was originally based on the quantity of grain sown in a field or on its produce, of which a certain share was taken by the State as revenue. On 'dry crops' the share was about one-fourth of the produce, and on 'wet' lands, irrigated from tanks and wells, the State received half and two-fifths respectively of the produce. When

payment in kind was commuted to cash payment, the amount thus fixed became the revenue of the field. A *tāluk*, after it has been surveyed, is divided into groups of villages for the purpose of classification and assessment. The fertility and depth of the soil, the absence or presence of sand, limestone nodules, saline efflorescences and other defects in it, proximity of the group to, or its distance from, centres of trade or railways, and easy means of communication are all factors which are considered in determining the assessment. A standard maximum rate per acre is fixed for the group, and varying rates to be applied to all land in the group are calculated on the basis of its advantages or defects.

No records exist to show what the revenue demand was in early times, but the revenues under Musalmān rule seem to have been generally farmed out. Traces of settlements made by the Bahmani kings and by the Adil Shāhi and Kutb Shāhi rulers have been found in some of the Districts; but it was not until Akbar's annexation of Berār in 1596, and Malik Ambar's rule in Aurangābād, that regular settlements were introduced. The *Sūbah* of Berār under the Mughals was more extensive than it is now, as it included portions of Sirpur Tāndūr, Elgandal, Indūr, Nānder, Parbhani, and Aurangābād Districts, which now fall within the boundaries of the Nizām's Dominions. Under Akbar's famous settlement, the assessment was fixed by measuring the arable lands, and making a careful estimate of the produce. Each *bīgha* was then rated at one-fourth the estimated produce, and the total demand on a village was termed its *tankhwāh* or standard rent-roll. In 1600 the province was assessed at 161 lakhs, and during the time of the first Nizām at 120 lakhs.

Telingāna during the reign of Abul Hasan, the last of the Golconda kings, yielded a total revenue of 166 lakhs, but the boundaries of the Golconda kingdom then extended as far as the sea-coast, including the Northern Circārs. It has been estimated that the present revenue is about equal to the cash assessments at the beginning of the seventeenth century. During the eighteenth century the State suffered from the inroads of the Marāthās; and when order was restored, the revenues of the State were farmed out to bankers and to Arab and Pathān soldiers, who extorted as much money as they could from the cultivators. The farming system was abolished by Sir Sālār Jang immediately after his appointment as Minister, and from that date the prosperity of the people has increased.

The average area of a holding in the whole State is 20⅔ acres, varying from 28½ acres in Marāthwāra to 12½ acres in Telingāna. In the Marāthā Districts the Government assessment on 'dry' lands ranges from Rs. 3-0-1 to R. 0-10-2 per acre, the average being R. 0-12-9, while for 'wet' and *bāghāt* (garden) lands the average is

Rs. 4–5–6 per acre, the maximum being Rs. 15–0–0 and the minimum Rs. 1–2–0. In the Telingāna Districts the average assessment on 'dry' lands is R. 0–13–5 (maximum Rs. 4–0–0, minimum R. 0–1–0), and on 'wet' lands Rs. 9–4–2, the maximum and minimum being Rs. 24–0–0 and Rs. 3–0–0 respectively. The average rate per acre for the whole State is Rs. 1–3–8, but for Marāthwāra and Telingāna it is R. 0–14–3 and Rs. 1–13–10 respectively, the high rate of assessment and the smallness of holdings in Telingāna being due to the prevalence of 'wet' cultivation. No reliable figures are available to show the gross produce, and it is impossible to say what proportion the land revenue demand bears to it. No difficulty is experienced in collecting the revenue, and there is very little resort to coercive measures. The general principle of assessment is to take half the net profits, after paying cost of cultivation, &c., as the State share.

In times of scarcity or famine, the demand is suspended and recovered in the following year; and remissions are also granted when distress is severe or when the ryot has lost his cattle. In Marāthwāra and in the settled Telingāna Districts, remissions are not granted for 'dry' land, as the assessment is very light. But in the unsettled Telingāna Districts, remissions are given on 'dry' lands affected by bad seasons, including excessive rain; and on 'wet' lands for want of water, including breach of tanks and decay of wells. These remissions are granted in ordinary years. Remissions are also given for 'wet' lands in settled Districts when the water-supply fails.

In the settled Districts the ordinary rates of assessment apply to the whole extent of the holding; but in the unsettled Districts only the cultivated area of a holding is assessed, and the revenue of the uncultivated portion is remitted on both 'wet' and 'dry' lands. Special rules have been made for encouraging ryots to plant mango groves, and land is given at 10 annas per acre for this purpose.

The ryot is free to transfer or sell his right of occupancy, and in this way much land has been acquired by professional money-lenders in the Marāthā Districts. The Telingāna ryot is just beginning to realize the value of occupancy rights.

Under Miscellaneous Revenue are included opium and drugs, customs, excise, and stamps.

Miscellaneous revenue.

In accordance with the terms of an agreement made with the Government of India, the cultivation of poppy was prohibited in 1881, and all opium for consumption has since been imported from Mālwā under passes issued by the Opium Agent. The duty levied amounts to Rs. 15 per seer, of which Rs. 10 is paid on issue of the pass and the balance on the arrival of the opium. Contracts for the monopoly of retail vend are sold in each District and

in the city circle. The right to sell hemp drugs (*gānja* and *bhang*) is also sold by auction.

The number of chests of opium, containing 70 seers each, imported in 1901 was 249. The gross value of the opium imported in 1881–90, 1891–1900 (averages), and 1901 was Rs. 2,49,630, Rs. 1,60,898, and Rs. 1,86,830 respectively. The net revenue realized from opium and hemp drugs since 1882 is given in the following table:—

	Average, 1882–90.	Average, 1891–1900.	1901.	1903.
	Rs.	Rs.	Rs.	Rs.
Opium	2,19,730	3,15,232	4,25,590	5,16,001
Gānja and *bhang* and other intoxicating drugs	...	...	64,328	74,949
Total	2,19,730	3,15,232	4,89,918	5,90,950

Customs duty is levied on imports and exports at the rate of 5 per cent. *ad valorem*, which is the maximum fixed by treaty with the Government of India. British gold, silver, and copper coins, vegetables, certain seeds, wool, books and maps, building stone (except Shāhābād stone), dry and green grass, and firewood are all exempt from both export and import duty. Since 1885 the duty on bar silver has been raised to 10 per cent., to check its import for illicit coinage. Salt is imported from Bombay and Masulipatam by railway, and a duty of Rs. 2 per *palla* or three maunds (120 seers) is collected by the Customs department. The total quantity of salt imported and consumed in 1881–90, 1891–1900 (averages), and 1901 was 41,840, 43,910, and 46,810 tons respectively; and the consumption per head in 1881, 1891, and 1901 was 9½, 8½, and 9½ lb.

The following table shows the customs receipts for 1901 and 1903, including the duty on salt:—

	1901.	1903.
	Rs.	Rs.
Import duties	18,07,528	19,43,324
Export duties	25,32,100	28,13,552
Octroi *	1,92,372	2,39,719
Salt	8,73,782	8,59,760
Duties on wines and spirits	37,523	17,276
Miscellaneous	20,437	24,192
Total	54,63,742	58,97,823

* This duty is levied at Hyderābād, Secunderābād, and Bolarum on produce and manufactures of the State brought into these towns, the tariff being the same as for Customs duty.

The excise revenue is farmed at auction, by contracts for periods ranging from three to ten years. The chief sources of income are

country spirits, toddy, and *mahuā* flowers. In the Districts country spirits are manufactured in out-stills, and there is no restriction as to the quantity or strength of liquor. At Secunderābād there is a State distillery. Contracts for drawing and selling of toddy are sold by *tāluks* in the Districts, while in the city circle, including Secunderābād and Bolārum, similar arrangements are made, besides which a *nazarāna* is levied on toddy shops, and a duty of 4 annas per pot of 20 seers. The duty on *mahuā* flowers is Rs. 16 per *palla* or 3 maunds.

The total receipts from excise for 1901 and 1903 are shown in the following table:—

	1901	1903
	Rs.	Rs.
Country liquor	6,37,592	10,83,730
Toddy	19,61,366	18,43,355
Mahuā flowers	7,10,251	9,70,804
Secunderābād contract	4,19,000	4,60,000
Total	37,28,209	43,57,889

Licences are granted for the sale of European liquor on payment of Rs. 30 a month. A private distillery has been licensed at Chādarghāt for the manufacture of rum after European methods from raw sugar and treacle.

Toddy is largely consumed in the Telingāna Districts, where the two kinds of toddy-palm (*Borassus flabellifer* and *Phoenix sylvestris*) are cultivated. In the Marāthā Districts the palm is rare, and the people use *mahuā* liquor to a much greater extent. There is a growing taste for European liquor in the city and suburbs and some of the District head-quarters. No special efforts have been made to restrict the consumption of intoxicants, though their increased cost, owing to better methods of administration, has had some effect. The incidence of excise revenue per head of population for the years 1901 and 1903 was respectively R. 0-5-7 and R. 0-6-3.

Postage and other stamps, post-cards, embossed envelopes, and stamp paper are all made at the Hyderābād Stamp Office. A discount of 5 per cent. is given to the vendors of all kinds of stamps. Until recently all the stamp paper used in Berār was also supplied from the Hyderābād Stamp Office, but since 1902 this has been discontinued. Most of the large *jāgīrdārs* who have their own courts are supplied with stamp paper at 25 per cent. of the full value of the stamp. Up to 1892 there were separate judicial and non-judicial stamps, but since that year all the stamps have been marked 'revenue.' Bad seasons affect the sale of stamps in a marked degree. The table on the next page shows the net revenue derived from the sale of stamps since 1881.

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.
	Rs.	Rs.	Rs.	Rs.
Stamp paper	8,77,493	14,96,809	9,84,866	6,35,937
Postage stamps	31,008	46,671	57,696	58,913
Stamped envelopes	8,888	16,427	23,965	28,926
Post-cards	...	4,055	8,322	11,406
Hundi paper	...	5,212	4,839	2,630
Summons stamps	...	27,313	35,893	42,158
Receipt stamps	...	4,823	16,543	17,785
Hundi stamps	...	2,579	22,153	38,870
Total	9,17,389	16,03,889	11,54,277	8,36,625

Local and municipal.

In 1887 a cess of one anna per rupee of land revenue was imposed. It was at first levied only in settled Districts, but was subsequently introduced into Warangal District, in anticipation of settlement. An Act was passed in 1899 to legalize the levy of other cesses, such as lighting and cart and carriage tax; but these cesses have not yet been imposed. The Local Board department was first created in 1887, and was placed under a Central board at Hyderābād, composed of high officials. This *Sadr* or Central board was, however, abolished in 1894, and the Sūbahdārs were empowered to sanction works up to Rs. 5,000, the general control being vested in the then Revenue Board, with powers to sanction up to Rs. 10,000, while estimates exceeding that amount were referred to the Minister.

In 1901 there were 13 District and 70 *tāluk* boards, consisting of 182 and 560 members respectively. The District board generally has the First Tālukdār as president and thirteen members, of whom seven are non-officials, selected from among the *zamīndārs*, respectable tradesmen, and *vakīls*; the official members, besides the president, being the revenue assistant at head-quarters, the District Engineer, the Superintendent of police, the District medical officer, the *tahsīldār* at head-quarters, and the head schoolmaster. The *tāluk* boards are subordinate to the District board, and are composed of two official members, the Second or Third Tālukdār in charge of the *tāluk* and the *tahsīldār*, and three non-official members. The *tāluk* boards control the expenditure on work connected with their *tāluks* and sanctioned by the District board, and keep detailed accounts of such expenditure. The District boards have power to sanction works up to Rs. 2,000.

The local cess provides funds for the construction and maintenance of roads, schools, dispensaries, resthouses, and other works calculated to benefit the inhabitants of the District. It is collected with each instalment of revenue paid by the cultivators and is credited in the

accounts as follows: village police fund, 4 pies; educational fund, 2 pies; road fund, 2 pies; medical, 1 pie; and general improvement fund, 3 pies. The village police fund is credited to the State which meets the cost of the village police, and the educational fund is controlled by the Educational department.

The works undertaken by these boards, since they have been in effective existence, have been of the following classes: repairs to local roads at the head-quarter towns, construction of roads to *tāluk* head-quarters, bridges, causeways, approaches to ferries, dispensaries, *chaurīs*, rest-houses, *dharmsālas*, *sarais*, markets, drinking wells and gardens, expenditure on municipal conservancy, lighting, sanitation, town police, and local board schools. Vaccination and cattle disease have also received attention. During famines numbers of new wells were dug and old wells cleaned and repaired. In fact, all local works are entrusted to the boards which are likely to promote the general health and convenience of the people. All these works are carried out by the local board engineers and are not in charge of Public Works officers.

The following table shows the income of the boards:—

	Average, 1891-1900.	1901	1903.
	Rs.	Rs.	Rs.
Provincial rates	40,864	40,093	42,920
Interest	...	549	108
Education	1,42,868	1,36,620	1,96,117
Medical	36,566	68,154	98,064
Miscellaneous	3,68,535	5,20,291	5,47,333
Public works	3,87,493	3,77,670	4,97,465
Ferries	23,701	27,309	22,470
Total	10,00,027	11,70,686	14,04,477

'Provincial rates' here means toll tax and fees collected at fairs and places of pilgrimage. Under 'miscellaneous' are included refunds, fines, school fees, income from public gardens, district municipalities, and deposits. 'Education' and 'medical' represent the two pies and one pie set apart from the local cess for these purposes.

The following table shows the expenditure:—

	Average, 1891-1900.	1901.	1903
	Rs.	Rs.	Rs.
Education	1,70,868	93,592	1,73,501
Medical	6,478	43,877	67,023
Miscellaneous	3,10,852	2,31,685	7,22,519
Public works	4,17,758	3,62,151	4,41,357
Total	9,05,956	7,31,305	14,04,400

The tables of income and expenditure refer to the whole State, except the Districts of Karīmnagar (Elgandal), Nalgonda, Adilābād (Sirpur Tāndūr) and the Crown District of Atrāf-i-balda. The allotments for education and medical are both spent through the General departmental Secretary on the establishments of the educational department, the normal school, and the secretariat, and the travelling expenses of the inspectors of schools, house rent, scholarships, prizes, and repairs to buildings, and in the medical department for allowances to establishments and vaccinators. Under 'miscellaneous' are included the pay of the police, the *pātels*' salaries, health officers' allowance, the upkeep of public gardens, the planting of roadside trees, &c.

Municipal administration was first introduced in Hyderābād in 1869, when the city proper was divided into four, and the suburbs into five, divisions for municipal purposes, the whole management being placed under a municipal superintendent. In 1881 the suburban area was handed over to a separate officer, both the officers being thenceforward designated secretaries to the two municipalities of Hyderābād city and Chādarghāt. In 1903 the two municipalities were again amalgamated and placed under a special officer, styled the secretary to the committee. The members of the committee are called municipal commissioners and number twenty-seven. The president and some of the members are officials, the remainder being selected from the *vakīls* of the High Court, bankers, representatives of the *Sarf-i-khās* and *paigāh* departments, and other persons not in State service.

Sanitation and conservancy were also provided for in the Divisional, District, and *tāluk* head-quarters; but regular arrangements and the appointment of committees were effected only after the establishment of local boards and the levy of the one-anna cess, from which municipal expenditure is met, as well as that of the District and local boards. The members of the local boards are also members of the municipal committees at the Divisional and District head-quarters. Excluding the city, there were 21 municipalities in the State in 1901. In 14 of these the population ranged from 10,000 to 37,000, and in the remaining 7 from 4,800 to nearly 10,000. They comprise the Divisional and District head-quarter towns, and a few of the *tāluk* head-quarters.

The incidence of taxation per head of population in the city and Chādarghāt municipalities in 1901 was R. 0-8-2 and R. 0-7-8 respectively, the chief items of receipt being hackney carriage licences, bazars, slaughter-houses, rents, and house tax. The latter is levied at the rate of 3 per cent. on the annual rent. A water tax has been levied in the city since 1897, and in Chādarghāt since 1896. Among

the results of municipal administration may be mentioned the widening of narrow streets and lanes, the construction of sewers and drains, and the supply of pure filtered water to the city from the Mīr Alam tank, and to Chādarghāt from the Husain Sāgar tank.

Public works.

The Public Works department was first organized in 1868, when a Chief Engineer, with a staff of assistants, was appointed, and a code was compiled for their guidance. The Chief Engineer exercised a general control over the department, and audited the entire expenditure. The Dominions were divided into fourteen districts, each under a district engineer. In 1869 a departmental Minister was appointed to work under the Minister, the Chief Engineer being secretary in the department. In 1875 the department was reorganized into two distinct branches, administrative and executive, the immediate head of the former being the Minister, and that of the latter the departmental Minister, styled the *Sadr-ul-Mahām*, while a secretary was appointed for each branch. The Municipal and Irrigation departments remained separate, and had not shown much progress, but were amalgamated with the Public Works department in 1884-5, the latter being separated from the Buildings and Roads branch in 1887. Subsequently the designation of the *Sadr-ul-Mahām* was changed to that of *Muīn-ul-Mahām*, who became head of both the branches of control and executive, and was made an Assistant to the Minister. In 1894, owing to the increase in the volume of work, the office of secretary in the Public Works department was separated from that of the Chief Engineer, and business connected with railways and mines, municipalities, and telephones was entrusted to the charge of the former. Since 1901, cases connected with railways and mines have been dealt with by the secretary in the Financial department.

Other changes have been made in the administration of the department, which at present is organized as follows: At the head is an Assistant Minister, styled the *Muīn-ul-Mahām*. Under him is a secretary, who holds charge of the administrative section divided into two branches known as the Irrigation and the General branches, the latter including buildings, roads, water-works, municipalities, and telephones. A Superintending Engineer holds executive and partial administrative charge of the Irrigation branch, and a Superintending Engineer is at the head of the General branch. These two officers, the secretary to the municipal committee, and the superintendents of the public gardens and telephone departments are all under the secretary.

Work in the Districts is supervised by the District Engineers, who are in charge of the construction and repairs of civil buildings and roads. At present 1,614 miles of roads are maintained by the depart-

ment at an annual expenditure of about 5½ lakhs, while others are in course of construction.

The more important works executed during the past few years include the African cavalry guard lines, commanding officer's quarters at Sūrāpur, military lines at Naldrug, an armoury and general hospital at Golconda, bandsmen's lines at Chādarghāt, the palace at Surūrnagar, the Malakpet State stables, the *thagī* jail, police barracks, Government House and the Commissioner's court at Hanamkonda, revenue survey offices at Raichūr, Gulbarga, and Hanamkonda, Central jails at Aurangābād, Gulbarga, and Warangal, and jails at Nānder and Medak, a clock-tower and medical storeroom at Hyderābād, dispensaries at Nānder, Wādi, Bhongīr, Nalgonda, Nizāmābād, Makhtal, Hingoli, and Yādgir, the Race Stand, the Public Works office, and the Afzal Ganj hospital at Hyderābād. The roads constructed have already been referred to. Important bridges have been made in Gulbarga District and over part of the Husain Sāgar tank.

At Hyderābād the Murkinalla drain has been diverted and improved, the Afzal Sāgar and Shāh Ganj drains have been constructed, and a channel made from the public gardens to the Gosha Mahal *kunta*. Hyderābād (with Chādarghāt), Aurangābād, and Nizāmābād are the only towns at present provided with regular systems of water-supply, executed under the supervision and control of the department. Those at Hyderābād and Aurangābād were constructed, and are maintained, at the cost of the State, while the Nizāmābād supply was paid for by the Rānī of Sirnapalli but is maintained from Local funds.

A telephone department was formed in 1884. It was organized by the Bombay Telephone Company and worked by them for eight months, after which period it was taken over by the State. The principal nobles of the State, wealthy private individuals, and all important officials are subscribers to the system. The annual upkeep costs Rs. 15,000, and the fees collected from the non-official class of subscribers amount to Rs. 10,000. The total number of offices and dwelling-houses to which wires are laid is 154, including 71 State instalments.

The Irrigation and the General branches of the Public Works department were separated in 1888, the former dealing with irrigation works only. In 1896, when it was found that the larger tanks required not only extensive repairs but restoration also, it was considered expedient to form a separate Irrigation department under a Chief Engineer, whose services had been lent to the State by the Government of India. The Irrigation Board was abolished, and the posts of Superintending and Divisional Engineers were also dispensed with, the Chief Engineer submitting his proposals, &c., relating to irrigation works to Government through the Public Works secretary.

Under the Chief Engineer are seven Irrigation engineers, one for each District, with an adequate subordinate staff and establishment, who are responsible for the maintenance of all irrigation works in their respective Districts. The designation of Chief Engineer was again changed to that of Superintending Engineer towards the close of 1903.

The operations of the Irrigation department are practically confined to the Telingāna and Carnatic Districts. The Marāthā Districts are now being surveyed, to ascertain suitable sites for extensive storage works, so as to ensure a supply of water in all years, as well as to afford useful employment to labourers in those Districts.

The irrigation works completed during the three years 1901–3 were of three distinct classes: (*a*) original works, including reconstruction of abandoned works; (*b*) restoration of recently damaged works; and (*c*) extensions and improvements. The amount spent on class (*a*) during the three years was 48·7 lakhs, on class (*b*) 60·4 lakhs, and on class (*c*) 89·5 lakhs, the aggregate being 199 lakhs. The increase of revenue derived from these was 1·2 lakhs, 5·8 lakhs, and 3·2 lakhs respectively, the total increase of revenue thus exceeding 10 lakhs, or 5 per cent. on the capital outlay.

The total expenditure on public works rose from an average of 18 lakhs in the decade 1881–90 to 23 lakhs in the next decade, and was 31½ lakhs in 1900–1 and 36·2 lakhs in 1903. Since 1895 the expenditure on each branch has been separately recorded. That of the General branch decreased from 18¾ lakhs in 1895 to 14¼ lakhs in 1901, while the cost of irrigation works rose from 7 lakhs to 16¾ lakhs.

Army.

The total strength of the State army in 1901 was 24,012, classed as regular (6,481) or irregular (17,531). The regular troops consist of three regiments of cavalry (915 strong), two regiments of Imperial Service cavalry (806), three batteries of artillery (360), and six regiments of Hyderābād infantry (4,400). Small detachments of the infantry regiments are stationed at Aurangābād, Gulbarga, Nizāmābād, and Warangal, to guard the jails at those places. Strong detachments from the cavalry regiments have latterly been posted at Amba (Mominābād) and Hingoli since their vacation by the Hyderābād Contingent. The irregular troops consist of 2,679 horse and 14,852 foot. Of these, 3,132 infantry and 1,355 cavalry are stationed at various posts to guard the jails, while the cavalry also escort the British and Nizām's posts. A small Volunteer Corps, called 'His Highness the Nizām's Own Mounted Volunteers,' numbers 120. In 1903 the total strength of the army was 24,035, the regulars and irregulars being 6,535 and 17,500 respectively. The expenditure on the army averaged 68·8 lakhs between 1881 and 1890, 69·4 lakhs in the next decade, and was 63·9 lakhs in 1901 and 63·7 lakhs in 1904.

The total strength of the British army stationed within the State in

1903 consisted of 2,988 European and 5,549 Native troops. Hyderābād is partly in the Secunderābād division, which is for the present directly under the Commander-in-Chief, and partly in the Poona division of the Western Command. The military stations at present are Bolārum and Secunderābād in the former, and Aurangābād in the latter. The head-quarters of the Hyderābād Volunteer Rifles are at Secunderābād, and detachments of the Berār Volunteer Rifles and Great Indian Peninsula Railway Volunteer Rifles are also located within the State. The total strength of these in 1903 was 1,278.

Police and jails.

Prior to the ministry of the late Sir Sālār Jang, there was no organized police in the State, and the arrangements made in the different Divisions depended to a great extent on the revenue officials. In 1866, when Districts were first formed, a regular police force was also raised and placed under the revenue authorities, but the system did not work satisfactorily. In 1869 a special *Sadr-ul-Mahām* or Police Minister was appointed, with full powers over the police. A year later *Sadr Mohtamims* were appointed, one for each Division; but their appointments were abolished in 1884, and an Inspector-General of District Police was appointed, the designation of *Sadr-ul-Mahām* being changed to *Muīn-ul-Mahām* or Assistant Minister, Police department. The District police were placed under the First Tālukdār, and the District Police Superintendent was made his executive deputy. Subsequently a detective branch was organized, under an officer deputed from the Berār force. Besides the city police, which is quite separate from that of the District police, there are three distinct police jurisdictions in the State: the *Sarf-i-khās*, the *Dīwāni* or *Khālsa*, and the *paigāh* and *jāgīr* police.

The supervising staff consists of an Inspector-General, 5 Assistants, 17 *Mohtamims* or Superintendents, 17 Assistant Superintendents, and 119 *Amīns* or inspectors; while the subordinate force comprises foot and mounted police, numbering 11,173 and 413 respectively. In addition to the regular force, the rural police are under the revenue officers or Tālukdārs, and have scarcely any connexion with the District police. They include 12,776 police *pātels*, 2,798 *kotwāls*, and 17,532 *rāmosīs* or watchmen, numbering altogether 33,106. The table on the next page gives statistics of number and pay in 1901 and 1903.

The strength of the regular force is equivalent to one policeman to every 990 persons in the *Dīwāni* and to 609 in the *Sarf-i-khās*, while there is one policeman to 7·1 and 4·3 square miles in these areas.

Recruits are medically examined as to their physical fitness, and their character is verified. The maximum age of recruits is 25, and their minimum height 5 feet 5 inches. The recruit on enlistment

undergoes a year's course of training at District head-quarters in law and procedure, drill, gymnastics, signalling, &c. Educated natives are averse to police service, owing to the low scale of pay offered. The detective branch is under a selected officer, who has an assistant and a staff of *amīns*, *jemadārs*, *daffadārs*, and constables working under him. This branch has done excellent service in arresting a large number of notorious dacoits and other criminals. A system of identification by means of finger-prints was introduced in 1898, and has been successful. The District police are armed with muzzle-loaders of an old and inferior type, but the officers are provided with swords and pistols. No special military police force is maintained in the State.

Particulars.	1901.		1903.	
	Number.	Pay.	Number.	Pay.
Dīwāni.		Rs.		Rs.
Supervising staff	142	2,03,460	139	2,00,580
Subordinate staff	40,008	18,95,850	38,293	19,41,990
Sarf-i-khās.				
Supervising staff	17	22,260	20	26,520
Subordinate staff	4,684	1,99,155	6,265	3,05,013
Total	44,851	23,20,725	44,717	24,74,103

The city police is quite distinct from the District police and is under a Commissioner, known as the *Kotwāl*, who exercises control within the municipal area. The total strength of this force is about 3,000, including 50 mounted men and nearly 100 Arabs; and the cost was 4·4 lakhs in 1901.

The railway police is a distinct corps and has no connexion with the District police. In 1871 through traffic was established between Bombay and Madras, necessitating the employment of 117 officers and men. This force has been gradually increased as new lines were opened, and in 1903 consisted of 520 men and officers under a Superintendent, the proportion being one man to every 1·6 miles of railway. A small body of specially selected men are employed as detectives, and travel in all passenger trains, and have been instrumental in bringing professional thieves to justice. There are 8 lock-ups in charge of the railway police, but prisoners are sent to the Secunderābād jail to serve their term.

The table on the next page gives the results of cases dealt with by the *Dīwāni*, *Sarf-i-khās*, and railway police.

The administration of jails is in charge of the Inspector-General of Police, who is also the Inspector-General of Prisons. Each of the outlying Central jails is in charge of a Superintendent, controlled by

the First Tālukdār in his capacity of *Nāzim-i-Mahābis* or Inspector of jails. The Third Tālukdārs or head-quarters *tahsildārs* supervise District jails. The Central jail at Hyderābād is also in charge of a Superintendent, who is directly subordinate to the Inspector-General of Prisons. Central jails are maintained at Hyderābād, Aurangābād, Gulbarga, Warangal, and Nizāmābād, and District jails at the head-quarters of other Districts. Lock-ups or subsidiary jails are located in some of the *tāluk* offices. The average jail mortality in 1891 was 28·9; but in 1901 it rose to 65·3 per 1,000, owing to the effects of famine on the population and also to cholera, the mortality for the same years at the Central jail at Hyderābād being only 17·7 and 13·9 respectively. Tents, rugs, and carpets of all descriptions, belts and shoes, table linen and towels, furniture, *tātpattis*, cotton tweeds, checks and shirtings, and police clothing and dress for office peons are made in the jails. Printing work and bookbinding are also done, and the *Jarīda* or *State Gazette*, as well as a large quantity of vernacular litho-printing, is turned out by the Hyderābād Central jail press. The total expenditure in 1901 was 5·2 lakhs, but the jails were then unusually full owing to the bad season. More detailed statistics of the jails in the State are given in Table VII (p. 305) at the end of this article.

	Average of five years ending 1901			
	Diwāni.	*Sarf-i-khās*	Railway	Total.
Number of cases reported	7,806	971	247	9,024
Number of cases decided in criminal courts	3,767	441	157	4,365
Number of cases ending in acquittal	1,746	178	9	1,933
Number of cases ending in conviction	2,021	263	148	2,432

Education.

Indigenous schools of the ordinary Indian type are found in many places. Reading, writing, and elementary arithmetic are taught, and the teacher is generally paid in kind, his income varying according to the size and importance of the village. The first English public school in Hyderābād was opened in 1834 by a clergyman of the Church of England, followed shortly after by a Roman Catholic school. An Arabic and Persian school was also founded in the city about the same time by the first Amīr-i-kabīr, a liberal patron of learning, and himself a mathematician of no mean order. State education commenced in 1854, when a school called the Dār-ul-ulūm was founded in the city of Hyderābād. In 1859 orders were issued directing that two schools, one Persian and the other vernacular, should be opened in each *tāluk*, and one at the head-quarters of each District. Committees were appointed to super-

vise these schools, consisting, in the case of *tāluk* schools, of two *pātels* and two *patwāris*, with the *tahsīldār* as president, and for District schools of a *pātel*, a *patwāri*, the *tahsīldār*, and the police inspector, with the Third Tālukdār as president. The last-named officer was *ex-officio* educational inspector of the District, and, as such, had to examine all schools during his tours. Education was thus entirely in the hands of the revenue authorities, and did not receive due attention.

In 1868 education was transferred to the Assistant Minister of what was then called the Miscellaneous department, and all candidates for masterships were required to go through a training at the Dār-ul-ulūm and obtain certificates. Two years later the control of public instruction was handed over to the late Mr. Wilkinson, then Principal of the Engineering College; but this change had no effect outside the city of Hyderābād. Here, however, it led to the splitting up of the Dār-ul-ulūm into five branch schools, and the establishment of an Anglo-vernacular school. In 1871 a Director of Vernacular Education was appointed, who improved the system of District schools; but the actual management remained in the hands of revenue officials as before, entailing much delay in the administration. Under this cumbrous system all circular orders emanating from the office of the Director of Public Instruction had to pass through the hands of the entire series of revenue officials before they reached the various schools in the Districts.

In 1872 there were sixteen schools in the city and suburbs, in one of which English was taught. The Districts contained 125 vernacular schools. The decade 1871-80 saw a great development in educational matters. In 1875 five deputy-inspectors were appointed for the Districts, relieving the revenue officials of educational work. Two years later the Anglo-vernacular high school in the city was abolished, and its pupils transferred to the Chādarghāt school. An Anglo-vernacular school was also opened for the first time at Aurangābād. In 1878 the payment of fees was made compulsory in the District schools. About 1880 the Chādarghāt high school was affiliated to the Madras University as a second-grade college; and in 1881 it was raised to the rank of a first-grade college. During this decade two important schools were opened to educate the higher classes in the city. The *Madrasa-i-Aliya*, which had been opened as a private school under English teachers for the education of Sir Sālār Jang's sons and relations, became a public school for the education of the higher classes, and as such has since had an uninterrupted career of success. In the year 1879 there were only 19 pupils on the rolls, the cost to the State per head being Rs. 1,643, whereas the school now has 200 pupils, and the cost per head is only Rs. 70 to Rs. 80. The *Madrasa-i-Aizza* was opened

under private agency for pupils of the same class, lower fees being charged, and a number of scholarships being granted.

As constituted at present the Educational department is under a Director of Public Instruction, whose proposals are submitted to the Minister through the Secretary in the Judicial, Police, and General departments and through the Assistant Minister for education. No officers are recruited in England, except a few of the staff of the *Madrasa-i-Aliya*, now called the Nizām College. The work of inspection is carried on by five chief Inspectors. Until about ten years ago all the schools in Hyderābād were directly under the department. Gradually, however, schools are being transferred to the local boards, but it is impossible as yet for the State to withdraw altogether from the management of these schools.

There are three Arts colleges: the Nizām College at Hyderābād (first grade), the Aurangābād College (second grade), both affiliated to the Madras University, and the Dār-ul-ulūm or Oriental College, which sends up candidates for the Punjab Oriental titles examinations. All three are purely State institutions. Although an excellent boarding-house is attached to the Nizām College, the accommodation available is so limited, and the fees so high, that the poorer students who come from outside are not able to take advantage of it. Something is being done to provide hostels for the students of some of the District high schools.

The following table illustrates the progress made in university education:—

Passes in	1881	1891	1901.	1903
Matriculation . . .	3	42	18	13
First Intermediate in Arts or Science	2	3	4	3
Ordinary Bachelors' degrees .	1	1	20	8
Higher and special degrees .	.	14	47	..

In 1901 the number of high schools was 16, two new ones having been added during the decade between 1891 and 1900. In all the high schools for boys English is treated as the first language, and the curriculum leads up to the Madras matriculation. The middle schools prepare pupils for the local middle school examination. In 38 English is the first language, while 15 are purely vernacular. Of the high schools, 8 are supported by the State, 7 are aided, and one is unaided, while the middle schools include 38 State, 9 aided, and 6 unaided. At present no secondary schools are under the local boards. In 1901 these schools were attended by 1·5 per cent. of the population of school-going age.

In 1883 there were 148 primary schools, of which 13 were at the

capital. The total number of pupils attending these schools was 7,757, representing 0·5 per cent. of the population of school-going age. In 1891 the percentage rose to 2·5. In 1901 the number of primary schools increased to 753, and the number of pupils to 41,876, giving a percentage under instruction of 2·4 to children of school-going age in that year. A system of grading the teachers has recently been introduced, and all the masters in primary schools, who formerly possessed no qualifications as a rule, are being gradually passed through the normal school. Some of the lower primary masters still receive Rs. 7, Rs. 8, or Rs. 9 a month, but a minimum of Rs. 10 is being introduced. Roughly the rate of pay may be said to be Rs. 10 to Rs. 15 in a lower primary school, and Rs. 15 to Rs. 25 in an upper primary. The inspectors are allowed to use their discretion in agricultural tracts in dispensing with full-time attendance during the months when the children's services are required in the fields.

Here, as elsewhere in India, the education of girls has not kept pace with that of boys, and the number of children under instruction is 6·1 per cent. on the school-going age population for boys, and only 0·5 for girls. Progress in this direction is slow, and as far as the Districts are concerned, is hardly satisfactory. On the reorganization of the department in 1885, the State contained, outside the capital, only one Korān school for girls, with an attendance of 30. Another school was opened to provide for a headmaster who had lost his eyesight, his wife being appointed mistress. There were at this time three English middle schools at the capital, with a total attendance of 224 girls, and 4 English and an equal number of vernacular primary schools, attended by 99 and 323 girls respectively. The number of schools for girls was 71 in 1891, and 77 in 1901; and in the last year the total number of female pupils was 4,467. Most of the girls' schools are directly under the State, but local boards have now taken over some of these schools.

There are three main obstacles in the way of progress. The first is the reluctance of Muhammadans to teach their daughters anything beyond their scriptures; but popular sentiment is slowly giving way, and reading, writing, and arithmetic up to an elementary standard are now taught in most of the schools, besides needlework, and in one school cooking. Early marriage among Hindus is the next difficulty, but this is not of so great importance in view of the very elementary instruction it is proposed to impart. The greatest difficulty, however, is the absence of trained mistresses. The pay offered is too small to attract outsiders, and there is as yet no training school for schoolmistresses. No tangible impression can be made until this want is supplied. The most notable feature under the head of female education is the foundation of a high-class *zanāna* school at Hyderābād.

This institution has since its foundation succeeded to a certain extent in turning out fairly well-educated members of the gentler sex, whose influence on public opinion is evidenced by an increasing desire on the part of parents of the higher classes to procure a sound education for their daughters, either by engaging the services of competent governesses at home, or sending them to this or some school outside the State. The *zanāna* school, with a roll of 41 girls, has a larger though still somewhat insufficient staff of European and native teachers; English, Arabic, and Persian are taught, besides the usual branches that form the curriculum of an upper middle school for girls. It is expected before long to take rank as a high school. The girls' schools established by the Wesleyan and American Missionary Societies are invariably well managed and do a great amount of good work.

A small engineering school, first opened at Warangal for the purpose of training young men for the subordinate grades of the Public Works department, was transferred to Hyderābād in 1896. A law school with two lecturers was organized in 1899. There is also a medical school at Hyderābād, supported by the State, of which the Residency Surgeon is the principal. It has, however, no connexion with the Educational department. A thriving normal school exists at the capital, through which all teachers of primary schools are being gradually passed, while another for girls at Secunderābād, founded by the Wesleyan Mission, supplies teachers for the girls' schools under that agency and is doing excellent work. The industrial school at Aurangābād was established about 1889, and has done a great deal to revive and improve many industries for which that place was once famous. Another industrial school was opened at Warangal in 1890, and has been transferred to Hyderābād, where it is doing good work. A Sanskrit school, started at Hyderābād in 1899, is aided by the State.

Provision is made for the education of Europeans and Eurasians in eight schools at the capital, which receive grants from the British Government and work under the Bengal code for European schools. Three of them receive an additional grant from the Hyderābād State. In 1901 these schools contained 650 pupils. Some of the pupils find employment as officers in the Hyderābād regular troops, while the Nizām's Guaranteed State Railway, in its various departments, provides for others.

While the Muhammadans form only 10·4 per cent. of the population of the State, they include 83 per cent. of the students in colleges, 45 per cent. of the pupils in secondary, and 42 per cent. of the pupils in primary schools. These results are due to the position held by Muhammadans in a State of which the ruler belongs to their religion. It is noticeable that the Hindus are more successful in examinations, proportionately to their numbers, than the Muhammadans.

Of the aboriginal tribes, the Gonds and Lambādis form the majority, but none avail themselves of the opportunities for educating their children placed within their reach. The Bhīls, chiefly found in the Aurangābād Division, are beginning to send their children to school. The schools throughout the State are open to children of all castes without distinction; but in practice few of the lower classes avail themselves of the permission, partly owing to the prejudices of the higher castes. In 1901, 23 boys belonging to the aboriginal tribes and 626 outcastes were at school, the greater number of the latter being found in the different mission schools.

According to the Census of 1901 literate persons numbered 29·55 per 1,000 of the total population, but taking males and females separately, the proportions are 54·7 and 3·4 respectively. Persons literate in English were 1·3 per 1,000 of the total population. Of the various religions, the Christians were far ahead of the others in point of literacy, there being 443 literate persons in every 1,000 professing that faith. The Musalmāns came next with 54, while the Hindus and Animists followed with 25 and 1 respectively.

Particulars of the expenditure on education and number of institutions and scholars will be found in Tables VIII and IX (p. 306).

The first systematic attempt to control the Press and the registration of books and newspapers in the State was made in 1886. The total number of newspapers and periodicals published in 1901 was 14, of which 12 were in Urdū, and 2 in Urdū and Marāthī combined. No English papers are issued here, although several published elsewhere have a large circulation in the State, and are mainly devoted to Hyderābād affairs. Seven of the fourteen were newspapers, and the remainder monthly magazines. Politics are discussed in the former, while the latter are devoted to legal, social, and literary topics. The *Mushīr-i-Deccan*, a daily paper, has the largest circulation.

The total number of books registered in 1901 was 23, which may be classified according to their subject matter as follows: law (6), history (2), religion (4), poetry (3), medical (1), mathematics (1), fiction (2), and miscellaneous (4). Apart from an Urdū translation of the biography of the late Amir of Kābul, these books are more or less original in character.

Medical.

The first medical institution opened in the State was the Hyderābād Medical school, founded in 1846, which has done much useful work in training medical officers and subordinates for the Hyderābād medical service, and hospital assistants for Berār. At first instruction was imparted in Urdū, but since 1884 English has been the medium. Till 1885 a board of medical officers from Secunderābād conducted the examinations; but since that year the written part has been supervised by a board

of examiners of the Madras Medical College or the Bombay Grant Medical College, the oral examination being conducted by a medical board from Secunderābād. The course is approximately the same as the L. M. & S. of the Madras University.

At present the State medical department is under a Director, who is also the Residency Surgeon, assisted by a competent staff of surgeons at head-quarters. The District staff consists of from 3 to 5 surgeons, 1 to 5 hospital assistants, 4 to 7 compounders, and from 5 to 11 vaccinators, according to the extent and requirements of each District. Most of the surgeons are passed students of the Hyderābād medical school. There are two lady doctors at Aurangābād; while Gulbarga, Raichūr, and Warangal Districts each have one. At Hyderābād a large staff of medical men is maintained, there being 15 surgeons, 7 hospital assistants, 24 compounders, and 11 vaccinators, besides a number of nurses with diplomas who tend the sick in the hospitals. The total strength for the State is 74 surgeons, 12 lady doctors, 31 hospital assistants, 104 compounders, and 116 vaccinators.

Statistics are only available from 1884–5. In that year there were 6 hospitals in the city and suburbs and 48 dispensaries in the Districts. By 1891 the number of dispensaries had increased to 67, and in 1901 it rose to 84. The total number of out-patients treated in all institutions in 1884–5, 1891, and 1901 was 292,515, 384,660, and 636,044 respectively. The major operations performed in the same years were 393, 3,313, and 4,628, while minor operations numbered 3,377, 16,795, and 1,500. In the *zanāna* department for *pardā* females attached to the Afzal Ganj Hospital at Hyderābād city, the number of cases treated in 1901 was about 3,000 and the operations performed 2,000. The whole cost of the department is met from State funds, and the expenditure in 1901 was 5·4 lakhs.

No separate lunatic asylum is maintained, though there is some accommodation for lunatics in the Hyderābād Central jail. In 1891 this contained 7 criminal and 29 other lunatics, while in 1901 their numbers were 21 and 109 respectively. The whole of the expenditure is borne by the State, the cost in 1891 and 1901 being Rs. 2,411 and Rs. 9,600 respectively. The principal cause of insanity is said to be the use of narcotic drugs and spirits.

Vaccination was commenced in 1884–5, when 48 vaccinators were employed, and the number of successful operations was 44,062, the cost per case being Rs. 1–3–0. In 1891 there were 76,880 successful cases, while in 1901 the number was only 37,880. The increase in 1891 was due to the larger number of vaccinators employed by the local boards, while in 1901 a large number of vaccinators were deputed on famine and plague duty. The cost of the department in 1891 and 1901 was Rs. 49,160 and Rs. 57,302 respectively; the average per

successful case for these years being R. 0-10-3 and Rs. 1-3-0. Operations are carried out exclusively with calf lymph, which is prepared at the vaccination dépôt in the State. Vaccination is performed according to the European method, and inoculation does not seem to be practised.

Hyderābād State was included in the Great Trigonometrical Survey. The subsequent topographical surveys were based on, or extended from, the main series of triangulation. The Darbār co-operated in this important work. It appears probable that Todar Mal's revenue system was introduced in most of the Marāthā Districts of the State early in the seventeenth century by Malik Ambar and Murshid Kuli Khān, and was based on a rough survey of lands. On the formation of regular Districts about 1865-6, the *bīgha* of 3,600 square yards was taken as a standard, and lands were roughly measured. About 1876 it was decided to commence accurate survey operations, and the work was first undertaken in Aurangābād District, and subsequently extended to other *tāluks* and Districts. In this systematic survey the areas were reckoned in English acres. The Aurangābād and Gulbarga Divisions were surveyed and settled by the end of 1894. The Bīdar and Warangal Divisions were also surveyed and settled by the end of 1904 and 1905, the only portions still remaining unsurveyed and unsettled being the District of Adilābād (Sirpur Tāndūr) and certain *tāluks* of Karimnagar (Elgandal) District.

Surveys.

[Syed Hossain Bilgrami and C. Willmott, *Historical and Descriptive Sketch of the Nizam's Dominions*, 2 vols. (Bombay, 1883-4); *Gazetteer of Aurangabad* (Bombay, 1884); Hastings Fraser, *Memoir and Correspondence of Colonel James Stuart Fraser* (1885); Meadows Taylor, *Story of My Life*, 2 vols. (1877); J. S. King, *The History of the Bahmani Dynasty* (1900); J. D. B. Gribble, *A History of the Deccan* (1896); Mirza Mehdy Khan, *Hyderabad Census Report*, 1901; A. J. Dunlop, *Administration Report of the Nizam's Dominions for* 1303 *and* 1304-7 *Fasli* (1894 and 1895-8); *Report on the Famine Relief Operations in the Nizam's Dominions in* 1899 1900; *Departmental Administration Reports.*]

TABLE I. DISTRIBUTION OF POPULATION, HYDERĀBĀD STATE, 1901

District or State.	Area in square miles	Number of towns.	Number of villages.	Total Population			Urban Population.			Persons per square mile in rural areas.
				Persons	Males	Females	Persons.	Males	Females.	
Atrāf-i-balda, including Hyderābād city and suburbs	3,399	1	847	869,168	446,258	422,910	448,466	232,295	216,171	125
Medak (Gulshanābād) Division.										
Indūr (Nizāmābād)	4,822	7	1,152	634,588	316,528	318,060	53,806	26,482	27,324	120
Medak (Gulshanābād)	2,005	3	631	366,722	186,272	180,450	20,285	10,460	9,825	173
Mahbūbnagar	6,543	2	1,353	705,725	357,098	348,627	19,616	9,942	9,674	105
Nalgonda	4,143	2	972	699,779	374,577	325,202	11,695	5,955	5,740	166
Total	17,513	14	4,108	2,406,814	1,234,475	1,172,339	105,402	52,839	52,563	131
Warangal Division.										
Warangal	9,729	3	1,488	952,646	496,041	456,605	28,242	15,517	12,725	95
Elgandal (Karīmnagar)	7,203	7	1,516	1,035,582	540,649	494,933	49,372	25,662	23,710	136
Sirpur Tāndūr (Adilābād)	5,029	1	983	272,815	137,572	135,243	6,303	2,976	3,327	53
Total	21,961	11	3,987	2,261,043	1,174,262	1,086,781	83,917	44,155	39,762	99
Gulbarga Division.										
Gulbarga	4,092	7	1,102	742,745	376,876	365,869	69,223	35,557	33,666	165
Osmānābād	4,010	6	860	535,027	270,924	264,103	46,743	23,701	23,042	122
Raichūr	3,604	6	893	509,249	256,332	252,917	58,113	27,558	30,555	126
Lingsugūr	4,879	7	1,266	675,813	338,415	337,398	46,996	23,212	23,784	129
Bīdar	4,168	7	1,457	766,129	385,067	381,062	53,585	26,468	27,117	171
Total	20,753	33	5,578	3,228,963	1,627,614	1,601,349	274,660	136,496	138,164	142
Aurangābād Division.										
Aurangābād	6,172	5	1,825	721,407	361,082	360,325	82,355	41,846	40,509	103
Parbhani	5,091	7	1,495	645,765	323,312	322,453	59,648	30,161	29,487	115
Nānder	3,349	4	1,170	503,684	251,081	252,603	34,375	17,182	17,193	140
Bhir	4,460	4	1,000	492,258	248,151	244,107	43,286	22,338	20,948	101
Total	19,072	20	5,490	2,363,114	1,183,626	1,179,488	219,664	111,527	108,137	112
Railways	...	...		12,040	7,394	4,646	...	...	...	...
Grand total	82,698	79	20,010	11,141,142	5,673,629	5,467,513	1,132,109	577,312	554,797	121

NOTE.—In 1905 the Districts were rearranged, the area of almost every one being altered. Details of the new areas, so far as available, will be found in the District articles.

TABLE II

STATISTICS OF AGRICULTURE, HYDERĀBĀD STATE
(In square miles)

	1881-90 (average).	1891-1900 (average)	1901.	1903.
Total area	33,281	40,861	47,096	60,734
Total uncultivated area	12,608	13,375	16,854	28,862
Cultivable, but not cultivated	5,061	5,270	5,997	6,172
Uncultivable	7,547	8,105	10,857	22,690
Total area cultivated	20,673	27,486	30,242	31,872
Irrigated from canals	41	57	46	48
" " wells and tanks	687	1,156	1,579	1,732
" " other sources	37	29	34	36
Total area irrigated	765	1,242	1,659	1,816
Unirrigated area	19,908	26,244	28,583	30,056
Cropped area.				
Rice	1,032	1,180	1,358	1,402
Wheat	761	873	914	941
Jowār	7,189	10,784	12,531	12,530
Bājra	2,911	3,145	2,487	2,556
Other food-grains	1,591	2,041	3,631	3,698
Oilseeds	2,910	3,009	3,294	3,420
Chillies	123	120	149	164
Cotton	1,543	1,761	3,226	3,517
Other fibres	50	53	85	86
Sugar-cane	18	20	29	29
Tobacco	107	110	125	124
Indigo	93	108	94	99
Miscellaneous	2,345	4,282	2,319	3,306
Total	20,673	27,486	30,242	31,872

TABLE III

Average Prices of Food-grains, &c., Hyderābād State

Selected staples.	Selected centres.	Average for ten years ending 1890.	1900.	1901.
Rice	Parbhani	11	10	9
	Osmānābād	8	9	8
	Raichūr	10	10	9
	Hyderābād city	10	8	6
	Medak	10	10	10
	Warangal	11	11	11
Jowār	Parbhani	34	32	26
	Osmānābād	22	21	17
	Raichūr	24	27	18
	Hyderābād city	24	20	10
	Medak	15	15	15
	Warangal	21	30	20
Bājra	Parbhani	26	16	13
	Raichūr	24	26	19
	Hyderābād city	20	18	13
	Warangal	24	29	21
Wheat	Parbhani	20	17	14
	Osmānābād	13	15	11
	Raichūr	10	12	8
	Hyderābād city	12	10	6
	Medak	10	10	10
	Warangal	12	12	10
Salt	Hyderābād city	8	8½	10¼

NOTE.—The prices are in seers (2 lb.) per Hyderābād rupee, which is at present (1907) equivalent to about 13 annas 9 pies in British currency.

Acute famine years, such as 1877-8 and 1899-1900, have been omitted from the averages.

TABLE IV

TRADE OF HYDERĀBĀD STATE WITH OTHER PROVINCES
(In thousands of rupees)

	1890-1.	1900-1.	1902-3.
Imports.			
Cotton piece-goods	1,34,67	59,52	96,65
,, twist and yarn	34,49	35,44	35,72
Silk	12,50	39,94	11,83
Salt	56,77	50,74	43,46
Sugar	15,45	17,43	25,19
Fruits	22,73	20,36	10,83
Nuts	11,17	7,16	6,77
Cattle and sheep	32,83	34,29	8,23
Silver	14,21	3,70	11,78
Brass and copper manufactures	6,04	2,89	5,58
Iron	6,17	5,46	5,71
Wood	7,76	5,65	1,48
All other articles	1,33,01	1,57,08	2,06,29
Total	4,87,80	4,39,66	4,69,52
Exports.			
Grain and pulse	72,86	67,71	25,56
Cotton (raw)	1,28,48	2,29,90	2,01,17
Linseed	52,58	24,78	59,85
Oilseeds	28,56	32,75	12,07
Ground-nuts	11,12	48	36
Castor-seed	24,60	57,79	52,82
Indigo	7,92	2,92	1,90
Oils	17,20	16,53	42,36
Wood	3,61	2,41	2,56
Cotton goods	12,76	7,01	9,85
Hides and skins	25,97	28,78	23,07
Cattle and sheep	17,43	19,97	15,19
All other articles	32,58	38,30	22,55
Total	4,35,67	5,29,33	4,69,31

TABLE V

PRINCIPAL SOURCES OF ORDINARY REVENUE, HYDERĀBĀD STATE

(In thousands of rupees)

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1904.
Land revenue	1,89,07	2,06,38	2,24,90	2,43,06
Customs	43,22	48,37	54,67	56,50
Stamps	4,65	8,33	7,91	8,57
Excise	37,62	49,30	49,03	58,32
Forests	1,86	2,54	4,13	5,20
Registration	8	48	41	41
Railways	11,94	21,62	48,03	36,43
Berār surplus	18,05	9,05	...	29,87
Other sources	20,29	36,72	27,60	30,68
Total	3,26,78	3,82,79	4,16,68	4,69,04

TABLE VI

PRINCIPAL HEADS OF EXPENDITURE, HYDERĀBĀD STATE

(In thousands of rupees)

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1904.
Charges in respect of collections	53,54	66,54	61,15	56,38
Salaries and expenses of civil departments:—				
(a) General administration	14,94	16,67	16,77	13,67
(b) Law and justice	10,58	12,53	13,78	11,65
(c) Police	24,52	26,12	28,76	27,86
(d) Education	3,36	7,00	7,49	7,29
(e) Medical	2,60	5,00	6,21	6,72
(f) Minor departments	3,65	3,23	4,34	1,93
Total	59,65	70,55	77,35	69,12
Mint	52	53	37	9,78
Pensions, allowances, and religious grants	42,24	43,78	40,70	39,44
Contributions to palace expenditure	41,22	58,79	50,28	50,00
Public works and irrigation	18,17	23,16	31,52	46,07
Military department	68,76	69,44	63,93	63,72
Railways	21,95	31,18	42,51	43,32
Miscellaneous and other charges (including famine)	9,96	38,05	43,22	72,66
Total expenditure	3,16,01	4,02,02	4,11,03	4,50,49
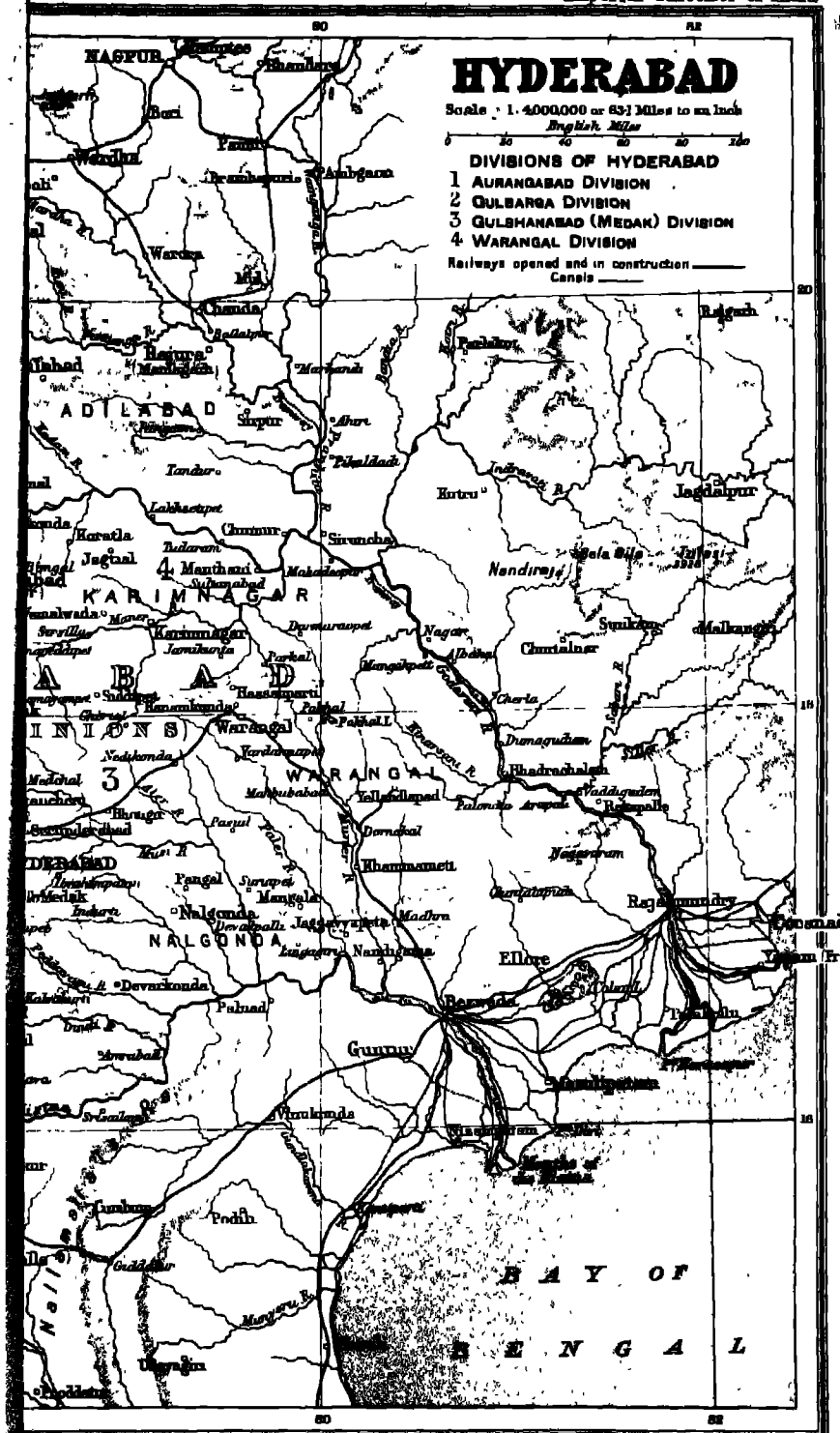
TABLE VII

STATISTICS OF JAILS, HYDERABAD STATE

	1881.	1891.	1901.	1903.
Number of Central jails . .	1	1	5	5
Number of District jails . .	16	16	12	12
Number of Subsidiary jails (lock-ups)	100	95	95	95
Average daily jail population—				
(*a*) Male.				
In Central jails . .	743	2,187	4,364	3,882
In other jails . . .	...	1,626	2,230	860
(*b*) Female:				
In Central jails . .	33	98	65	67
In other jails . .	...	83	55	23
Total	776	3,994	6,714	4,832
Rate of jail mortality per 1,000	...	28·9	65·3	26·9
Expenditure on jail maintenance . . . . . Rs.	...	1,89,831	5,14,920	3,88,284
Cost per prisoner . . Rs.	...	47-8-6	76-11-1	80-5-7
Profits on jail manufactures Rs.	...	15,512	48,172	1,28,313
Earnings per prisoner . Rs.	...	3-14-0	7-2-1	45-1-3

TABLE VIII

Colleges, Schools, and Scholars, Hyderābād State

Class of institutions.	1900-1. Number of institutions	1900-1. Scholars. Males.	1900-1. Scholars. Females	1903-4. Number of institutions.	1903-4. Scholars. Males.	1903-4. Scholars. Females.
Public.						
Arts colleges . .	2	39	...	2	55	...
Oriental colleges .	1	132	.	1	129	...
Secondary schools—						
Upper (High) .	16	4,099	169	15	4,107	243
Lower (Middle)	53	8,550	399	58	9,524	364
Primary schools—						
Upper	133	13,214	1,165	137	13,656	1,138
Lower . . .	620	24,852	2,650	638	25,066	2,799
Training schools .	2	246	89	2	367	98
Other special schools .	5	428	...	8	612	...
Private.						
Advanced	14	1,373	...	5	...	262
Elementary . . .	1,826	38,181	.	1,801	36,559	.
Total	2,672	91,114	4,467	2,667	90,075	4,904

Note.—Statistics for 1880-1 and 1890-1 are not available.

TABLE IX

Educational Finance, Hyderābād State

	Expenditure on institutions maintained or aided by public funds: State revenue	District and municipal funds.	Fees	Other sources.	Total (1901).	Total (1903).
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Arts and professional colleges	57,353	..	456	.	57,809	53,060
Training and special colleges . . .	26,508	6,939	1,963	1,320	36,730	37,211
Secondary schools . .	2,36,221	979	41,467	48,994	3,27,661	3,20,460
Primary schools . .	91,010	87,063	7,955	16,977	2,03,005	2,01,134
Girls' schools . .	15,581	5,098	1,497	14,486	36,662	84,112
Total .	4,26,673	1,00,079	53,338	81,777	6,61,867	6,95,977

TABLE X

STATISTICS OF HOSPITALS AND VACCINATION, HYDERĀBĀD STATE

	1884-5	1891.	1901	1903
Hospitals, &c.				
Number of civil hospitals and dispensaries . . .	48	67	84	84
Average daily number of—				
(*a*) In-patients . . .	...	...	12	28
(*b*) Out-patients . . .	801	1,054	1,743	1,796
Income from—				
State funds (the only source) Rs	2,03,263	4,01,244	5,40,005	6,83,495
Expenditure on—				
(*a*) Establishment . . Rs.	..	3,13,161	4,37,525	4,63,349
(*b*) Medicines, diet, buildings, &c. . . Rs.	...	88,083	1,02,480	3,46,562
Lunatic Asylums.				
Number of asylums . .	...	1	1	1
Average daily number of—				
(*a*) Criminal lunatics .	..	7	21	26
(*b*) Other lunatics . .	...	29	109	122
Expenditure on				
(*a*) Establishment . . Rs.	...	120	1,140	1,140
(*b*) Diet, buildings, &c. Rs.	...	2,291	8,460	31,765
Vaccination.				
Population among whom vaccination was carried on . .	9,845,594	11,537,040	11,141,142	11,141,142
Number of successful operations .	44,062	76,880	37,880	26,591
Ratio per 1,000 of population .	4·47	6·66	3·42	2·38
Total expenditure on vaccination . . . . . Rs	...	49,160	57,302	34,878
Cost per successful case . Rs.	1-3-0	0-10-3	1-3-0	1-5-0

Hyderābād City (*Haidarābād*).—Capital of Hyderābād State, or the Nizām's Dominions, situated in 17° 22′ N. and 78° 27′ E., on the right bank of the Mūsi river, a tributary of the Kistna. It is the fourth largest city in the whole of India. The population (including the suburbs, Residency Bazars, and the adjoining cantonment) was: (1881) 367,417, (1891) 415,039, and (1901) 448,466. In the last year, Hindus numbered 243,241, Musalmāns 189,152, and Christians 13,923. There were also 863 Sikhs, 929 Pārsīs, 318 Jains, and 40 others. Hyderābād is on the Nizām's State Railway, distant by rail from Bombay 492 miles, from Madras 533 miles, and from Calcutta 987 miles. The city was founded in 1589 by Muhammad Kuli, the fifth Kutb Shāhi king, who ruled at Golconda, five miles west of Hyderābād. It was first named Bhāgnagar, but the name was afterwards changed to Hyderābād. It continued to prosper until Aurangzeb began to interfere between the king and his discontented minister, Mīr Jumla, in 1665. In 1687 Golconda was stormed and Hyderābād fell into the hands of the Mughals, in whose possession it remained until the first Nizām proclaimed his independence, and made it his capital.

The city is surrounded by a stone wall flanked with bastions, and pierced with thirteen gates and twelve *khirkīs* or posterns. It is built in the form of a parallelogram, 6 miles in circumference and 2¼ square miles in area. The wall was commenced by Mubāriz Khān, the last Mughal *Sūbahdār*, and completed by the first of the Nizāms. The city has extended beyond its former limits on the north and east. Four bridges span the Mūsi. The Purāna Pul, or 'old bridge,' is the westernmost, and the Oliphant Bridge the easternmost, while between these two are the Afzal Bridge and the Champā Gate Bridge.

The most imposing of the buildings due to the Kutb Shāhi kings is the Chār Minār, or 'four minarets,' erected in 1591, and occupying a central position in the city, with four roads radiating from its base. The minarets, 180 feet high, spring from the abutments of open arches facing the cardinal points. During the occupation of the Mughals, one of the minarets was struck by lightning, and its reconstruction cost Rs. 60,000. M. Bussy, the French general, and his troops occupied the Chār Minār in 1756. The building was thoroughly renovated by Sir Sālār Jang a few years before his death. Close to the Chār Minār are the Chār Kamān, or 'four arches,' built in 1593 over four streets, leading to the four quarters of the city. The Chār-sū-kā-Hauz, or 'cistern of four roads,' is situated to the north of the Chār Minār. The king had a pavilion erected near the cistern, from which he used to witness the manœuvring of his troops. The Dār-ush-shifa (hospital), about 200 yards to the north-west of the Purānī Havelī ('old palace'), built by Sultān Kuli Kutb Shāh, is a large building consisting of a paved quadrangular courtyard, with chambers all round for the

accommodation of the sick. A number of native physicians were formerly maintained to minister to the sick and to teach medicine, but the building is now used as a barrack for some of the irregular troops. Opposite the entrance is a fine mosque erected at the same time as the hospital. The Ashūr Khāna, a large building west of Sir Sālār Jang's palace, was erected by Sultān Muhammad Kuli Kutb Shāh in 1594, at a cost of Rs. 66,000. It is used for the Muharram ceremonies. The Purāna Pul ('old bridge') connects the city with the Kārvān road to Golconda. It consists of 23 arches, and is 600 feet long, 33 broad, and 54 above the river-bed, and was built in 1593. The river is very narrow here, and the banks are steep. The Gosha Mahal palace, erected by Abul Hasan, the last Kutb Shāhi king, stands a mile north of the city, and has a large cistern and pleasure-grounds for the *zanāna*. It was used until lately as a barrack, but is now a military club. The Mecca mosque, situated to the south-west of the Chār Minār, is 225 feet long, 180 broad, and 75 high, and is built entirely of stone, occupying a paved quadrangle 360 feet square. Fifteen arches support the roof, which is surmounted by two large domes, rising 100 feet above it. It can accommodate 10,000 worshippers. Muhammad[1] Kutb Shāh commenced the building, and after his death its construction was continued by Abul Hasan, but Aurangzeb completed it. Nizām Alī Khān and all his successors are interred in the grounds of this mosque. The Jāma Masjid, which is near the Chār Minār, was built in 1596. Ruins of a Turkish bath are to be seen in the courtyard. With the exception of the Mecca Masjid and the Gosha Mahal, all these buildings were constructed by Sultān Muhammad Kuli Kutb Shāh, who is said to have spent three millions sterling on public buildings and irrigation works, while his nobles followed his example. An extensive burial-ground, known as Mīr Momin's Daira, was originally consecrated as the necropolis of the Shiah sect by Mīr Momin, who came to Hyderābād from Karbalā in the reign of Abdullāh Kutb Shāh. It contains his remains, but now both Shiahs and Sunnis are buried here. Sir Sālār Jang's family burial-ground lies to the south of the Daira.

Among the more recent buildings may be mentioned the Purānī Havelī ('old palace'), an extensive building in the north-eastern quarter of the city, built by the first of the Nizāms, and still occasionally used by the present ruler. The Nizām's Chaumahalla palace consists of three quadrangles, with handsome buildings on either side, and large cisterns in the centre. The palace is luxuriously and tastefully furnished, and the *zanāna* or ladies' apartments lie beyond the third quadrangle. There are other royal residences at Golconda, Surūrnagar, Maulā Alī,

[1] Not to be confounded with his uncle and predecessor, Muhammad Kuli, the founder of Hyderābād city.

Asafnagar, Lingampalli, and Malakpet; but His Highness at present usually resides in Sirdār Villa at Malakpet near the racecourse. Sālār Jang's palace is situated near the Afzal Gate and consists of two portions: one containing the Bārādari and Lakkar Kot ('wooden palace') lies on the right bank of the Musi, and the other is beyond the road leading to the Purānī Havelī. Both are extensive buildings covering a large space of ground. Shams-ul-Umarā's Bārādari, situated in the west of the city, was built by the first Shams-ul-Umarā on an extensive piece of ground. The Falaknumā, a very fine palace, was built by the late Sir Vikār-ul-Umarā on the summit of a hill in the southern suburb of the city, at a cost, it is said, of 35 lakhs. The view of the city and suburbs from this palace is most striking, and no building in Hyderābād equals it in point of architecture or design. It was purchased by the Nizām in 1897. The Jahānnumā palace and its beautiful gardens, belonging to the late Sir Asmān Jāh, are situated north of the Falaknumā. The palace and the bungalows in the gardens contain a great number of ingenious mechanical toys.

The suburbs may be divided into those beyond the river Mūsi and those adjoining the city. The former comprise Begam Bāzār, Kārvān, Afzal Ganj, Mushīrābād, Khairatābād, Saifābād, and CHĀDARGHĀT, extending for a distance of 3 miles from east to west and an average breadth of 1½ miles from north to south, covering an area of over 5 square miles. The Residency Bazars are situated to the south-east of these suburbs and to the north-east of the city. The other suburbs adjoining the city to the east and south are known as Yākūtpura, Malakpet, and Jahānnumā, and occupy an area of 4 square miles.

The Residency is situated on the left bank of the Mūsi, opposite the north-eastern corner of the city. The building is an imposing one, and stands in the midst of a beautiful park-like expanse, with handsomely laid-out gardens. It was commenced in 1800, under the supervision of Mr. Russell of the Madras Engineers, and was completed about 1807. It contains a Darbār Hall on the ground floor, measuring 60 feet by 33 and 50 feet high. The grounds contain bungalows for the First and Second Assistant Residents, while the Residency Surgeon resides in a bungalow outside the walls. On the south side are large ranges of offices. Beyond the north gate are the court of the Superintendent of Residency Bazars, the Residency hospital, and the Residency high school and clock-tower; while the telegraph office is situated to the west of the building. A cemetery close by contains, among other tombs, those of two Residents, Mr. G. A. Bushby and Mr. Roberts, who died respectively in 1856 and 1868; and of Sir W. Rumbold, Bart., a partner in the house of Palmer & Co., who died in 1833.

The Residency is surrounded on all sides by populous bazars, over

which the Resident exercises civil and criminal jurisdiction. The population of the bazars in 1901 was 16,904, and they form a great centre of trade, where branch houses and representatives of all the wealthy bankers in India are to be found. West of the Residency hospital is the Local Funds building. On the right of the road leading from the western gate of the Residency is located the Hyderābād branch of the Bank of Bengal, an imposing stone building. The British Post Office is situated in the north-west corner of the limits of the Residency Bazars, and a little to the north lie St. George's Church and schools, adjoining which is the old cemetery.

The Husain Sāgar, a large sheet of water, which when full extends over an area of 8 square miles, lies between SECUNDERĀBĀD on the north and Saifābād, a portion of Hyderābād, on the south, and is the source of water-supply for the Residency and suburbs north of the Mūsi river. The dam is 2,500 yards long, and forms the road connecting the northern suburbs with Secunderābād. It was built by Sultān Ibrāhīm Kutb Shāh, in about 1575, at a cost of 2½ lakhs. The Mīr Alam, situated to the south-west of the city, is another magnificent sheet of water, 8 miles in circumference. The dam consists of a series of 21 semicircular retaining walls with their convex side facing the water. Its total length is 1,120 yards, and it was constructed by French engineers in the Nizām's service. Mīr Alam, the Minister, built this, and the Bārādari and other buildings, out of the prize-money which fell to his share after the fall of Seringapatam. The dam alone cost 8 lakhs. The city and suburbs are now amply supplied with water from these two large tanks. Water-works have been constructed, though the systems are not yet complete. This supply has led to a considerable improvement in sanitation; and cholera, which used to be an annual visitor, has not been known in the city for the last few years.

The houses of well-to-do people in the city are chiefly built of stone and brick, standing within large gardens. Those of the commoner people were formerly built of mud, but are now gradually being replaced by brick structures. The old streets and lanes were narrow, but have of late been widened through the exertions of the municipality. In the northern suburbs, however, most of the houses are of a much superior plan, resembling the bungalows of Europeans, and are situated in suitable compounds. It may be said that practically three-fourths of the old city and suburbs have been rebuilt or renovated since the ministry of the late Sir Sālār Jang, in addition to the buildings erected during the last half-century.

Hyderābād now contains three colleges, several English and vernacular schools, a large Roman Catholic church, and a number of places of worship for other Christian denominations. The public gardens,

beautifully laid out, with two large tanks in the centre, and surrounded by a picturesque wall, lie at the foot of the Naubat Pahār. To the south of these gardens is the Hyderābād station of the Nizām's Guaranteed State Railway. Near the Afzal Bridge are the Afzal Ganj Hospital and Mosque; the former has accommodation for 78 in-patients, and a large staff of surgeons and nurses. Most of the State secretariats and other offices are situated in Saifābād and Chādarghāt, but the High Court and the Small Cause and Magistrates' Courts, the Treasury, and the Accountant General's and certain other offices are located in the city. The system of municipal administration and the arts and manufactures carried on in the city are described in the article on HYDERĀBĀD STATE.

Hyderābād District.—District in the province of Sind, Bombay, lying between 24° 13′ and 27° 14′ N. and 67° 52′ and 69° 22′ E., with an area of 8,291 square miles. It is bounded on the north by the State of Khairpur; on the east by Khairpur and the Thar and Pārkar District; on the south by the Rann of Cutch; and on the west by the river Indus and Karāchi District.

Physical aspects.

The District is a vast alluvial plain, 210 miles long by 48 broad. Fertile along the course of the Indus, which forms its western boundary, it degenerates towards the east into sandy tracts, which have recently, by the construction of the Jāmrao and Nasrat Canals, been reclaimed from the desert and promise to become most fertile regions. A small limestone range in the Hyderābād *tāluka*, known as the Ganjo hills, runs nearly due south parallel to the river for about 14 miles. The monotony of the great flats is relieved by the fringe of forests which marks the course of the river, and by the avenues of trees that line the irrigation channels branching eastward from the beneficent stream. The Tando subdivision, in the south of the District, has special features in its large natural watercourses (*dhoras*), and grass-covered depressions (*channs* or *dhandhs*), which retain rain and surplus canal-water for many months and nourish a luxuriant growth of *babūl* trees on their margins. The Indus borders the District for 150 miles.

Except in the neighbourhood of Hyderābād city, where there are hills of Kīrthar limestone (middle eocene), the entire District is occupied by the alluvium of the Indus.

The fruit trees common in the District are the mango, lime, mulberry, date, plantain, orange, peach, fig, pomegranate, and grape. Of forest trees, the commonest is the *babūl*; others are the *kandi*, *geduri* (*Cordia latifolia*), *ber*, *bahān*, and several varieties of tamarisk. On the road-side and in gardens the *bar* (*Ficus indica*), the *pīpal*, the *tāli* or black-wood, the *siras* (*Albizzia Lebbek*), the *nīm*, the horse-radish tree, and the tamarind are met with. The bush jungle comprises the wild

caper, the *khabar* (*Salvadora persica*), the *jhar* (*Salvadora oleoides*), the *ak*, and the camel-thorn or *kas* (*Alhagi maurorum*). Wild grasses useful for fodder are the *khip*, *chabar*, *sawari*, and *makhni*; others used in mixing mud plaster are the drab and *kal*; of reeds, the *kanh*, used in making reed mats, and the bulrush are the most common.

The wolf, fox, jackal, hog deer, antelope, hare, badger, otter, and hog almost complete the list of wild animals. Among birds, the *tilūr* is remarkable, and most of the common kinds of wild duck and water-fowl are to be met with during the cold season. Sand-grouse, quail, and black and grey partridge are common. Venomous reptiles abound, including the cobra, the *kappar* (*Echis carinata*), and the *karait* (*Bungarus caeruleus*). The Indus supplies a great variety of fish, of which the *pala* is said to be peculiar to this river and is caught only between March and August.

Great variations of climate obtain within the District. The hot season lasts from April till July, with an average maximum temperature of 104°. In August and September the heat is tempered by rain, and an immense amount of water is used in cultivation. In October the mercury rises again temporarily, but for the rest of the year the weather is dry and pleasant. In December and January frosts are not uncommon at night; at Guni, on the night of December 26, 1903, the thermometer fell to 22° and on the following night to 27°. Frosts such as these cause widespread damage to the cotton crop. In the north of the District greater extremes of heat and cold are met with, while in the south the proximity of the sea adds moisture to the air. Fogs are not uncommon in the cold season. In the Tando subdivision fevers are prevalent in consequence of the swamps, especially as the inundation recedes; but on the whole the District in normal years is healthy.

The annual rainfall averages 5·7 inches, the local distribution being: Hyderābād 7, Bādin 6, and Naushahro 3 inches. In 1869 there was an extraordinary fall of 20 inches all over the District. The same year is memorable for an outbreak of epidemic cholera, and in the Hyderābād *tāluka* of severe fever.

History.

The history of Sind since 1768 centres in this District, for all the events of the eighteenth century affected more or less nearly Hyderābād, the modern capital of the province. Under the old name of Nerankot, this city was, in the eighth century, sufficiently important to be the first object of Muhammad bin Kāsim's invasion of Lower Sind. A thousand years later, Ghulām Shāh, the Kalhora chief, burst from the desert, overthrew his usurping brothers, and made Nerankot, then renamed Hyderābād, his capital. Thenceforth this District assumes a foremost place in the history of Sind. Under the Tālpur dynasty it remained the leading state; and

within its limits were fought the battles of Miāni and Dabo, which decided (1843) the fate of Sind. Its local history is, however, so mixed up with that of the province, that little could be here said of it separately which will not more properly find a place under the history of SIND. Before 1861, Umarkot District (now in Thar and Pārkar District) and a large portion of the eastern delta (now part of the Shāhbandar *tāluka* of Karāchi) were included in Hyderābād. Since 1884 some trifling adjustments of territory have been made with Karāchi and Thar and Pārkar, and in 1894 the *tāluka* of Mīrpur Khās was transferred to the latter. The *parganas* of Kandiāro and Naushahro were resumed by Government in 1852 from the domains of Mīr Alī Murād of Khairpur, on his public conviction for forgery and fraud, and transferred to this District.

Numerous tombs with inscriptions are met with throughout the District. The antiquities of special interest at Hyderābād are the tombs of the Kalhora and Tālpur rulers, richly decorated with coloured tiles in geometric and floral patterns; the colours are cruder and the designs less artistic than in similar work at TATTA in Karāchi District.

Population.

The population of the District has increased by 47 per cent. since 1872. The totals at the enumerations were: (1872) 677,994, (1881) 703,637, and (1891) 861,994. According to the Census of 1901, the total was 989,030, distributed as follows:—

Tāluka	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Guni	986	1	158	91,506	93	+ 14	2,154
Bādin	792	...	165	81,790	103	+ 11	731
Tando Bāgo	697	...	141	74,876	107	+ 18	694
Dero Mohbat	604	..	137	46,919	78	+ 12	315
Hyderābād	398	1	98	138,021	347	+ 13	14,516
Tando Alāhyār	690	3	107	87,990	128	+ 15	2,078
Shāhdādpur	644		102	73,504	114	+ 25	1,532
Hāla	503	2	103	98,230	195	+ 8	1,235
Sakrand	786	..	109	64,036	84	+ 36	810
Moro	402		78	66,641	166	+ 20	1,369
Naushahro	539	...	105	97,506	181	+ 7	3,056
Kandiāro	320	...	69	62,937	197	+ 13	2,158
Nasrat *	930	...	74	5,074	5	...	300
District total	8,291	7	1,446	989,030	119	+ 15	30 948

* This *tāluka* was formed in 1903 from portions of the Moro and Shāhdādpur *tālukas*.

The District contains 7 towns and 1,405[1] villages. The towns are: HYDERĀBĀD CITY, the head-quarters, MATIARI, TANDO ADAM, HĀLA,

[1] According to the Census of 1901, 41 new villages have sprung up in the parts of the District that were formerly desert.

TANDO MUHAMMAD KHĀN, NASARPUR, and TANDO ALĀHYĀR. The density of population is 119 persons per square mile, but varies considerably in different parts. Sindī, the chief vernacular of the District, is spoken by 91 per cent. of the people. Classified according to religion, Hindus form 24 per cent., and Musalmāns 75 per cent.

Among the Hindus, the chief castes are Lohānas (148,000), who are clerks and traders; Dheds (24,000), who are scavengers; and Kolīs (15,000), who are employed in cultivation. Of the Muhammadans, nearly three-fourths are Sindīs, the descendants of the original Hindu population converted to Islām during the Ummayid dynasty of Khalīfs, chiefly represented by the Sammās (226,000) and the Sūmras (36,000). There are 27,000 Muhammadan Jats. The Sindīs have a fine physique, but are timid and lacking in moral fibre: they are looked down upon by the more warlike tribes of the District as natural serfs. Next in point of numbers among the Muhammadans are the Baluchis (163,000), subdivided into a great number of tribes, the chief being the Rind (21,000), Dombki (10,000), Khosa (12,000), Jamāli (11,000), Jakrāni (3,000), Līghāri (21,000), Chandia (Husaini and Hāji) (22,000), Korai (9,000), Jatoi (14,000), Burdis (Sundar and Hājī) (18,000), Marri (11,000), and Lashāri (13,000). Their leading clan is the Rind, and its members are held by the rest of the community in high respect. Fairer in complexion than the Sindīs, they are also a hardier race; honourable after their own code, and manly in field sports. They are Sunnis by sect. More important, however, as regards social status and personal character are the Pathāns (6,000), found chiefly about Hyderābād and Upper Sind, with the naturalized Arabs (37,000) returning themselves as Alwi (54), Bani Abbās (1,300), Husaini (10,000), Hasani (2,500), Kureshi (9,000), and Kalhora (8,000). They are superior to the foregoing in personal appearance and morale. From their being held in great esteem by the princes of the Kalhora dynasty, they acquired considerable grants of land, which they still possess. The remaining Muhammadan classes worthy of mention are the Muhānos or fishermen (33,000) and the Shaikhs (7,000), the latter being Memons, formerly Hindus who emigrated from Cutch to Sind under Kalhora rule and devoted themselves to trade.

The number of persons supported by agriculture form 64 per cent. of the total population. General labour supports 6 per cent., industry 15 per cent., and commerce one per cent.

The total Christian population numbers 1,345, of whom 192 are natives, mostly Roman Catholics. The Church Missionary Society has a branch at Hyderābād, where it maintains a high school and a primary school for boys, attended respectively by 56 and 113 pupils. The Zanāna Mission, established at Hyderābād in 1885, has a dispensary for women and 6 primary schools for girls.

Agriculture.

The different kinds of soils prevailing in the District are four in number: soil containing a large admixture of sand, but with good productive capabilities; hard and firm soil; sandy soil; soil strongly impregnated with salt. The greater part of the land in the northernmost division is very fertile. In the Hāla and Tando subdivisions, towards the east, there is much sandy and unprofitable land. In the Tando subdivision, to the south and east, are extensive salt plains.

The chief statistics of cultivation in 1903–4 are shown below, in square miles:—

Tāluka	Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Guni	986	384	161	295	9
Badin	792	254	178	437	...
Tando Bāgo	650	271	145	341	...
Dero Mohbat	723	378	153	237	...
Hyderābād	384	217	101	34	25
Tando Alāhyār	576	287	91	238	...
Shāhdādpur	545	297	110	135	...
Hāla	511	301	122	69	64
Sakrand	494	231	72	115	58
Moro	477	232	93	86	15
Naushahro	545	301	132	81	19
Kandiāro	321	188	71	53	38
Nasrat	931	110	49	582	
Total	7,935*	3,451	1,478	2,703	228

* This differs from the area shown at the Census of 1901, being based upon more recent information.

The principal crops are: *jowār* (163 square miles), *bājra* (504), rice (319), wheat (138), cotton (143), and oilseeds (149). Wheat and *jowār* are the staples of the north, *bājra* of the central or Hāla subdivision, and rice and *bājra* of the south. The area under cultivation is gradually increasing, more especially in the Jāmrao tract, where the water-supply is assured. Garden cultivation is limited to the neighbourhood of large towns, where vegetables are grown to a small extent. Sugar-cane is raised in the south. Large advances have been made under the Land Improvements and Agriculturists' Loans Acts, amounting during the decade ending 1903–4 to 7⅓ lakhs, of which one lakh was advanced in 1899–1900, 1·9 lakhs in 1902–3, and one lakh in 1903–4.

The domestic animals include the horse, camel, bullock, buffalo, donkey, sheep, and goat. Camels and bullocks are used for draught, and in turning water-wheels for the irrigation of land.

Agriculture in Hyderābād is chiefly dependent upon artificial irrigation, and is regarded as a lottery in which the cultivator stakes his labour and seed on the chance of getting an exactly suitable flood.

If the water rises too high, or not sufficiently high, the cultivator loses his crop. The mud flats of the Indus are cultivated without irrigation, as the river recedes. The District contains a number of wells, especially in the Naushahro subdivision, which are utilized in growing *rabi* crops (especially wheat). There are 281 canals, all of which are fed by the Indus and are Government property. In addition to these, numerous smaller canals and watercourses are the property of landholders. Of the Government canals, 35 are main channels, which tap the Indus direct; the remainder are connecting branches. Of the total cultivated area, 1,478 square miles, or 42 per cent., were irrigated in 1903-4. The various sources of irrigation are: Government canals, 1,387 square miles; private canals, 2 square miles; wells, 13 square miles; and other sources, 76 square miles. Nearly 30 per cent. of the irrigated land is supplied by the FULELI CANAL, a large natural channel, which was formerly a branch of the Indus on the left bank of that river, taking off 5 miles north of Kotri. Its course, which is south-easterly, runs through portions of the Tando subdivision. About 101 canals and distributaries are taken directly from it. It is now a perennial canal, and steam-launches have recently been introduced for navigation, which is possible as far as Talhār, 44 miles from Hyderābād, for launches, and 20 miles farther for cargo boats. The JĀMRAO CANAL, recently completed, supplies more than 86 square miles. Of the other canals that supply the District, the chief are: the Nasrat (83 square miles), the Great Marak (61), the Gharo Mahmūdo (104), the Dād (118), the Naulākhi (84), the Nasir Wah (54), and the Sarfrāz (45).

Forests cover an aggregate area of 228 square miles. They skirt the Indus from the Naushahro down to the Tando subdivision. Many of them are of considerable extent, especially in the Naushahro subdivision, those of Bhour, Bhorti, Khairodero, and Mari being each above 10,000 acres in area. The revenue derived from these forests in 1903-4 amounted to 1·45 lakhs. The chief indigenous trees are the *pīpal*, *nīm*, *tāli* or black-wood, *siras*, *ber*, *bahān*, *bar*, *kandi*, *geduri*, *babūl*, and several varieties of tamarisk.

Among the mineral productions of the District may be mentioned *met*, a kind of fuller's earth, which is dug from mines in the Ganjo hills near Hyderābād. Salt of an excellent quality is found on the Rann of Cutch, but the deposits are too remote to be worked with profit.

Trade and communications.

The manufactures of the District, once famous, are in a state of decline. The Hyderābād *tāluka* still enjoys much of its old pre-eminence for lacquered work. In the days of the Mīrs, arms made at Hyderābād city were also held in the highest esteem; but, owing to the reduced demand for chain armour, shields, and sabres under British rule, the trade is now in abeyance. In the Hāla subdivision, the special features

of the local industries are striped and brilliant cloths known as *sūsis* and *khes*, and also glazed pottery. The latter work is turned to various ornamental purposes, especially tiling, and is remarkable for excellence of both glaze and colour. In nearly all parts of the District some industry is carried on; blankets, coarse cotton cloths, camel saddles, rugs, felt, and metal-work being perhaps the commonest products. In 1905 there were 24 cotton-ginning factories in the District, giving employment to nearly 4,200 persons.

The transit trade is considerable, the chief centre of distribution being Hyderābād city. The chief imports are cotton, sugar, spices, and English-made articles, and the chief exports are cotton, wheat, oilseeds, and millet; the three first go to Europe, and the last to Cutch and the desert portion of Thar and Pārkar. Twenty fairs, lasting from three to fifteen days, are held in the District.

The Indus is navigable by country boats at all times of the year. The North-Western Railway connects Hyderābād city with Karāchi and Rohri, crossing the river at Kotri. A branch of this railway, which until 1901 ended at Shādipāli, has been replaced by a narrow-gauge line giving connexion with Bombay by means of the Jodhpur-Bīkaner line, thus opening up the eastern portion of the District. The southern portion, forming the Tando subdivision, is being connected by a broad-gauge line with Bombay, now open from Hyderābād to Badin. The total length of roads is 2,275 miles, of which 37 are metalled. Of the total length, 28 miles are maintained by the Public Works department, and the remainder by local boards. The chief roads are those from Hyderābād to Kandiāro, and from Hyderābād to Badin. Avenues of trees are maintained on 322 miles.

Administration.

The Collector has a staff of three Assistant Collectors for the Hāla, Naushahro, and Tando subdivisions, and a Deputy-Collector for a portion of the Hāla subdivision. Hāla comprises the Hyderābād, Hāla, Shāhdādpur, and Tando Alāhyār *tālukas*; Naushahro comprises Naushahro, Kandiāro, Moro, Nasrat, and Sakrand; Tando comprises Guni, Badin, Tando Bāgo, and Dero Mohbat with the Digri *mahāl*. A portion of the District irrigated by the Jāmrao Canal is in charge of an officer called the 'Colonization officer,' who is invested with the powers of a Collector and also administers the Nasrat *tāluka*.

The District and Sessions Judge, who sits at Hyderābād city, is assisted by four Sub-Judges. The Subordinate Judge at Hyderābād hears suits valued at more than Rs. 5,000 for the whole District, and he alone of the Subordinate Judges is vested with appellate powers. All the Subordinate Judges are empowered to hear 'small causes.' Two Joint Subordinate Judges sit, one at Hāla, the other at Naushahro, who hear such suits as may be transferred to them by the Subordinate

Judges of those two places. The District Judge alone can hear suits to which Government or its officials are parties. The crimes most prevalent are cattle-stealing, theft, and burglary.

The land tenures are simple. Broadly speaking, all land is either 'assessed' or 'alienated.' In the former case, the land is cultivated sometimes by the *zamīndār* himself, but usually by tenants-at-will, who for their labour receive a share of the produce. The occupancy holder (*maurūsi hari*) is really a hereditary cultivator, for his rights are heritable and transferable; and the *zamīndār*, except as regards the actual payment of rent, has no power over him. The tenant-at-will (*ghair maurūsi*) is legally the creature of the *zamīndār*, but the large landholders in the District do not exercise their powers oppressively. The *zamīndār's* own tenure is hardly more definite here than elsewhere in India, and whatever of certainty it possesses is owing entirely to British legislation.

In the second class of lands (the 'alienated'), there are three chief varieties: namely, *jāgīrs*, charitable grants, and garden grants. The *jāgīrs* of the District at the first settlement under British rule were computed at 40 per cent. of the total area, but now only about 8 per cent. of the whole is 'alienated.' They are either permanent and heritable, or granted for two lives only, or merely life grants. The last class is rapidly disappearing. The grants are liable to a cess of 5 per cent. for local purposes, and some pay besides to Government a percentage of the produce assessed according to their class, the maximum being one-fourth. The total area held on charitable grants is very small. Garden grants are held free of assessment so long as the gardens are properly maintained.

Formerly the Government assessment was levied in kind, but since 1851 payment has been received in cash. The land assessment is levied on survey numbers or fields when cultivated, according to rates fixed at the time of the settlement for each kind of irrigation. To prevent a *zamīndār* holding more land than he can cultivate, he is required to pay at least one assessment in five years, whether the land be cultivated or not. The first survey was carried out between 1860 and 1865. The rates were subsequently revised every ten years, simultaneously with the expiry of the irrigation settlements. The latest settlement rates show an increase of 11 per cent. during the ten years ending 1901–2. The current rates per acre are: garden land, Rs. 3–4 (maximum Rs. 5–2, minimum Rs. 2–4); rice land, Rs. 3–2 (maximum Rs. 4–8, minimum Rs. 2–4); and 'dry' land, Rs. 2–1 (maximum Rs. 3–6, minimum R. 1–0).

Collections on account of land revenue and revenue from all sources are given on the next page, in thousands of rupees.

The municipalities are seven in number, viz.: HYDERĀBĀD, TANDO

MUHAMMAD KHĀN, HĀLA, MATIARI, TANDO ALĀHYĀR, TANDO ADAM, and NASARPUR. The local affairs of the District outside the municipalities are managed by the District board and twelve *tāluka* boards, with receipts of 2·5 lakhs in 1903-4. Their expenditure in the same year amounted to 2·9 lakhs, of which 1·2 lakhs was spent on roads and buildings. The Local fund revenue is derived from the cess on land revenue, the 5 per cent. *jāgīr* cess, and other miscellaneous sources.

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	15,95	35,56	37,87	41,45
Total revenue . .	21,54	47,24	49,27	50,87

The police force is in charge of a District Superintendent, with head-quarters at Hyderābād city, and an Assistant Superintendent. There are 25 police stations and 66 outposts in the District. The number of police, including 4 inspectors, is 1,121, of whom 17 are chief constables, 217 head constables, and 883 constables.

The Central jail at Hyderābād city has accommodation for 865 prisoners, and the District jail at the same place has accommodation for 480. There are also eleven subsidiary jails in the District, in which 304 prisoners can be accommodated. An extra-mural gang of about 362 prisoners, in charge of an Assistant Surgeon, works in the District wherever its services are required. The daily average number of prisoners confined in 1904 was 1,040, of whom 12 were females.

Hyderābād stands twenty-first among the twenty-four Districts of the Presidency in regard to the literacy of its population, of whom 3·13 per cent. (5·4 males and 0·3 females) are able to read and write. In 1881 there were 98 schools with 5,501 pupils. The number of pupils rose to 14,342 in 1891 and to 19,481 in 1901. The District possessed 546 institutions in 1904. Of the 340 institutions classed as public, 4 are high schools, 7 middle schools, 322 primary schools, 3 training schools, and 4 other special schools. These were attended by 19,973 pupils (including 2,814 in private schools), of whom 2,733 were girls. Five are maintained by Government, 125 are managed by local boards, 20 by municipalities, 185 are aided and 5 unaided. The total expenditure on education is about 2½ lakhs, of which Rs. 40,000 is derived from fees. Of the total amount, 55 per cent. is devoted to primary schools.

There are 17 dispensaries, one civil hospital, and one women's hospital, with accommodation for 169 patients. The number of patients treated in 1904 was 108,914, of whom 2,286 were in-patients, and 7,778 operations were performed. The total expenditure on these institutions, excluding one private dispensary, was Rs. 42,595, of which Rs. 28,144 was met from Local and municipal funds. A lunatic asylum,

named after the donor, Sir Cowasjī Jahāngīr, has accommodation for 170 patients, the number in 1904 being 153.

The number of persons successfully vaccinated in 1903–4 was 18,927, representing a proportion of 19 per 1,000, which is below the average for the Presidency.

[A. W. Hughes, *Gazetteer of the Province of Sind* (1876).]

Hyderābād Tāluka.—*Tāluka* of Hyderābād District, Sind, Bombay, lying between 25° 10′ and 25° 33′ N. and 68° 20′ and 68° 45′ E., with an area of 398 square miles. It contains one town, HYDERĀBĀD (population, 69,378), the District and *tāluka* head-quarters; and 98 villages. The population in 1901 was 138,021, compared with 122,507 in 1891. The density, 347 persons per square mile, is largely above the District average. Land revenue and cesses in 1903–4 amounted to about 2 lakhs. A small limestone range, known as the Ganjo hills, runs nearly due south parallel to the Indus for about 14 miles. The *tāluka* is compact in shape, and produces *bājra*, green gram, wheat, and cotton. It is irrigated wholly by canals.

Hyderābād City (*Haidarābād*). — Head-quarters of Hyderābād District, Sind, Bombay, situated in 25° 23′ N. and 68° 25′ E., on the North-Western Railway. Population: (1872) 43,088, (1881) 48,153, (1891) 58,048, and (1901) 69,378, including 4,588 in cantonments. Of the population in 1901, 24,831 were Muhammadans, 43,499 Hindus, and 710 Christians. The city ranks seventh in the Presidency in point of population. Upon the site of the present fort is supposed to have stood the ancient town of Nerankot, which in the eighth century submitted to Muhammad bin Kāsim Sakifi. In 1768 the present city was founded by Ghulām Shāh Kalhora; and it remained the chief town of Sind until 1843, when, after the battle of Miāni, it surrendered to the British, and the capital was transferred to Karāchi. The city is built on the most northerly hills of the Ganjo range, a site of great natural strength, 3½ miles east of the Indus, with which it is connected by the high road to Gidu Bandar. In the fort, which covers an area of 36 acres, are the arsenal of the province, transferred hither from Karāchi in 1861, and the palaces of the ex-Amīrs of Sind. Besides 4 high schools with 1,319 pupils in 1903–4, Hyderābād contains a training college for males with an attached technical class (121 students), a normal class for females (3), a training college for mistresses (6), a midwifery school (3), an agricultural school (109), an engineering class (34), and a medical school (43). The total number of schools is 50, of which 6 are for girls. The city contains a civil hospital and a dispensary.

Hyderābād is now plentifully supplied with water, which is pumped up from the Indus by powerful machinery, located on the river bank at Gidu. Thence the water passes along an aqueduct raised on masonry

arches, into two large reservoirs or depositing tanks, situated about 500 yards from the river bank, each capable of holding over 1,000,000 gallons. From these tanks the water flows by gravitation to within a short distance of the foot of the rocky plateau on which the fort is built; from here the water is pumped up into a tank inside the fort, whence it is distributed to the city and cantonments by gravitation.

Hyderābād, as the historic capital of Sind, is the centre of all the provincial communications—road, telegraphic, postal. From the date of its foundation (1768), its manufactures—ornamented silks, silver- and gold-work, and lacquered ware—have been the chief in the province, and during the last thirty years have gained prizes at the industrial exhibitions of Europe. The garrison is composed of British and Native infantry, 2 batteries of artillery, and an ammunition column. The barracks are built in twelve blocks, with hospitals, bazar, &c., to the north-west of the city. The only noteworthy antiquities are the tombs of the Kalhora and Talpur rulers. The Residency, memorable for its gallant defence by Sir James Outram against the Baluchis in 1843, which was situated 3 miles from Hyderābād, no longer exists.

The municipality was established in 1853, and had an average income during the decade ending 1901 of Rs. 2·2 lakhs. In 1903–4 the income and expenditure amounted to 2·7 and 2·8 lakhs respectively. The chief sources of income are octroi (Rs. 1,30,000) and water rate (Rs. 22,000); and the chief heads of expenditure are general administration and collection of taxes (Rs. 39,000), public safety (Rs. 7,400), water-supply and drainage (Rs. 22,000), conservancy (Rs. 37,000), hospitals and dispensaries (Rs. 15,000), public works (Rs. 13,000), and education (Rs. 18,000). The income of the cantonment fund in 1903–4 was Rs. 43,000, and the expenditure Rs. 33,800.

Hylākāndi.—Subdivision of Cāchār District, Eastern Bengal and Assam. *See* HAILĀKĀNDI.

Iavej.—Petty State in KĀTHIĀWĀR, Bombay.

Ibrāhimpatan.—Former *tāluk* in Mahbūbnagar District, Hyderābād State. *See* BĀGHĀT.

Ichalkaranji State.—Petty State, feudatory to Kolhāpur, within the Political Agency of Kolhāpur and the Southern Marāthā Country, Bombay, lying between 16° 41′ and 16° 50′ N. and 74° 31′ and 74° 50′ E. *See* KOLHĀPUR STATE.

Ichalkaranji Town.—Chief town of the feudatory *jāgīr* of the same name in Kolhāpur State, Bombay, situated in 16° 41′ N. and 74° 31′ E., near the Pānchganga river, about 18 miles east of Kolhāpur city. Population (1901), 12,920. The town is administered as a municipality, with an income in 1903–4 of Rs. 4,500. The climate is healthy, but the water of the wells is brackish. Good drinking-water

has been brought in iron pipes from the Pānchgānga by the help of a steam pump raised on a tower built in the river. Every year in October a large fair attended by about 2,000 people is held in honour of Venkatesh, the guardian deity of the State.

Ichāmatī (1).—River of Pābna District, Eastern Bengal and Assam, which is mentioned in Martin's *Eastern India* in the description of Dinājpur. It is now fed by the Ganges, from which it is given off about 7 miles south-east of Pābna town, in 23° 56′ N. and 89° 20′ E. After passing Pābna, it flows through the District by a tortuous route, and joins the Hurāsāgar a short distance below the confluence of that river with the Baral. During the rains it becomes a wide and beautiful stream, but for eight months in the year it is little more than a dry sandy bed. As shown in the maps of Major Rennell, it would appear at one time to have been connected with the Karatoyā.

Ichāmatī (2).—River of Nadiā District, Bengal. The Ichāmatī is in its present form a branch of the MĀTĀBHĀNGA (an offshoot of the Ganges), which it leaves at Krishnaganj in 23° 24′ N. and 88° 43′ E. The Ichāmatī flows south till it enters the Twenty-four Parganas, where it takes the name of JAMUNA (2). It is a deep river, navigable throughout the year by the largest trading boats. It was probably at one time a main outlet of the Ganges when it was forcing its way eastwards, and was possibly part of an older stream which was cut in half by that river, there being another river of the same name—ICHĀMATĪ (1)—on the north bank of the Ganges in Pābna District.

Ichāmatī (3).—River of Dacca District, Eastern Bengal and Assam. It flows through the south of the District, entering the Meghnā near Munshiganj. This even within historical times was a large stream, and has no less than five sacred bathing *ghāts* on its banks, at which the bathing ceremony takes place at the full moon in the month of Kārtik, when a similar ceremony is performed on the Karatoyā. This Ichāmatī seems to have been at one period, like the ICHĀMATĪ (2) of Nadiā and Jessore, a continuation of the North Bengal ICHĀMATĪ (1), from which it was cut off by the Dhaleswarī.

[For a discussion of the history of this river, see paragraph 22, *Report on the System of Agriculture and Agricultural Statistics of the Dacca District*, by A. C. Sen (1898).]

Ichchāpuram Tahsīl.—*Zamīndāri tahsīl* in the interior of Ganjām District, Madras, lying between 19° 3′ and 19° 22′ N. and 84° 15′ and 84° 46′ E., with an area of 300 square miles. The population in 1901 was 83,500, compared with 74,846 in 1891. They live in 266 villages. The demand for land revenue and cesses in 1903–4 was Rs. 61,200. The head-quarters are at ICHCHĀPURAM TOWN, which lies outside the *tahsīl* in the adjoining Government *tāluk* of Berhampur. Of the principal estates in it, Chikati is open, well cultivated, and irrigated by the

Bāhudā river, while Surangi and Jarada largely consist of hill and jungle.

Ichchāpuram Town ('City of desire').—Town in the Berhampur *tāluk* of Ganjām District, Madras, situated in 19° 7′ N. and 84° 42′ E., on the trunk road and on the East Coast Railway, 15 miles south-west of Berhampur. Population (1901), 9,975. It was formerly the head-quarters of the Ichchāpuram district of Chicacole *Sarkār*, and the seat of the Muhammadan Naib. Some small mosques in ruins alone remain. To one of these followers of the Prophet come from distant places for prayer. The place is now the head-quarters of a deputy-*tahsīldār*.

Ichhāwar.—Town in the Nizāmat-i-Maghrib or western district of Bhopāl State, Central India, situated in 23° 2′ N. and 77° 1′ E. Population (1901), 4,352. The site is an old one, the present town having been built on the foundations of the village of Lakshmipura. A small fort in the place was built by the Marāthās, who seized it in 1716. Ichhāwar was made over to the Bhopāl State under the treaty of 1818. The Ichhāwar *tahsīl* was for many years held in *jāgīr* by the Bhopāl Bourbons, who have given a succession of shrewd councillors and valiant soldiers to the State. About 1560 Jean Philippe Bourbon of Navarre, a cousin of Henry IV, came to India. He entered the service of Akbar, married Juliana, said to have been a sister of Akbar's 'Christian wife,' and was created a Nawāb. The family continued in the service of the Delhi emperors till 1739, when on the sack of that city by Nādir Shāh they fled to the fort of Shergarh (25° 35′ N. and 77° 58′ E.), which they held in *jāgīr* in the territory of the Narwar chief. The family remained in Narwar in safety till 1778, when the Rājā, who was jealous of his powerful feudatory, attacked Shergarh and massacred all but four of the family, who managed to escape to Gwalior. After the capture of Gwalior in 1780 by Major Popham, some territory was assigned to them, and soon after Salvador Bourbon took service in the Bhopāl State, and became a general in the State army. Salvador's son Balthasar was minister to Wazīr Muhammad, and was instrumental in concluding the treaty of 1818 with the British Government, he being one of the signatories. During the Mutiny of 1857 the fugitives from Agar were hospitably received by Jean de Silva and several of the Bourbon family who were then residing in the town. Members of the family still live in the State[1].

Idak.—Village in the Daur valley, in the Northern Wazīristān Agency, North-West Frontier Province, situated in 32° 57′ N. and 70° 15′ E., on the left bank of the Tochi river, 28 miles west of Bannu. Its inhabitants belong to the Idak subdivision of the Tappizād Dauris. About 1½ miles north-east of the village is a post garrisoned by the Northern Wazīristān militia.

[1] *Asiatic Quarterly Review*, 1887.

Idar State.—Principal Rājput State of the Mahī Kāntha Agency, Bombay, lying between 23° 6′ and 24° 29′ N. and 72° 45′ and 73° 39′ E., with an area of 1,669 square miles. It is bounded on the north by Sirohi and Udaipur; on the east by Dungarpur; and on the south and west by the Bombay Presidency and the territories of the Gaikwār of Baroda. In the south-west lies a level and sandy tract, but elsewhere the country is broken up by wild hills covered with an abundance of trees and brushwood. Except during the hot season the scenery is very beautiful. Idar is well drained by the Sābarmatī, Hāthmatī, Meshwa, Mājam, and Vātrak rivers.

Tradition relates that from 800 to 970 Idar was under Gahlot rule, and, after a period of Bhīl independence, was subject to Paramāra Rājputs (1000–1200). Amar Singh, the last Paramāra ruler, left Idar in the hands of his servant Hathi Sord, a Kolī, who held the country till his death, and was succeeded by his son Samalio Sord. The latter, a debauched and vicious man, roused so much discontent that his ministers conspired against him, and invited Rao Sonang of Sāmetra, the ancestor of the Raos of Pol, to their aid. This chief killed Samalio Sord, and took possession of his territory. About twelve generations of this family are reckoned to the expulsion of Jagannāth, the last Rao of Idar, in 1656, by Murād Baksh, at that time the *Sūbahdār* of Gujarāt. A *desai* or deputy was afterwards placed in charge of Idar for some years. In 1728 Anand Singh and Rai Singh, two brothers of the Rājā of Jodhpur, accompanied by a few horsemen from Vamo and Pālanpur and the Kolīs of Godwāra, established themselves in Idar without much difficulty. This family is the last that effected a settlement in Gujarāt by conquest. They are said to have acted under an order from Delhi: but the truth seems to be that they were tempted by the state of the country, and most likely assisted by the Jodhpur princes who at that period held the *Sūbahdāri* of Ahmadābād. The Idar principality consisted of the districts of Idar, Ahmadnagar, Modāsa, Bāyad, Harsol, Parāntij, and Vijāpur, to which five other districts were rendered tributary. Some years after the conquest, at the instigation of the *desai* above mentioned, who appears to have been displaced, an officer in the service of Dāmājī Gaikwār, named Bachājī Duvājī, was dispatched on the part of the Peshwā to take possession of Idar. This he accomplished with the aid of the Rehwār Rājputs, the servants of the late Rao. Anand Singh was killed about 1753; and Bachājī, after leaving a detachment behind, returned to Ahmadābād. Rai Singh, however, collected a force, and again obtained possession of Idar. Shiv Singh, son of Anand Singh, now became ruler under the guardianship of his uncle Rai Singh, who died in 1766. During the rule of Shiv Singh the State was stripped, by the Peshwā, of Parāntij, Vijāpur, and half of the three districts

of Modāsa, Bāyad, and Harsol, which districts were afterwards ceded by the Peshwā to the British Government. The other half of the Idar territories fell to the Gaikwār, who contented himself with the exaction of a share of the revenues, fixed in perpetuity by the settlement of 1812 at Rs. 24,000 for Idar, and Rs. 8,950 for Ahmadnagar. Shiv Singh died in 1791, leaving five sons, the eldest of whom, Bhawān Singh, succeeded him, but died in a few days, leaving the State to his son Gambhīr Singh, a boy of ten. Dissensions in the family now arose, which resulted in the temporary dismemberment of Idar. Sangrām Singh, second son of Shiv Singh, who had received Ahmadnagar from his father in feudal grant, assumed independence; and with his assistance Zālim Singh and Amīr Singh, two other sons of Shiv Singh, after a long struggle possessed themselves respectively of Modāsa and Bāyad during Gambhīr Singh's minority. Indra Singh, the fifth son of Shiv Singh, who was blind, received Sur and three other villages for his support. Sangrām Singh, chief of Ahmadnagar, died in 1798, and was succeeded by his son Karan Singh. Zālim Singh of Modāsa died childless in 1806, and his apanage ought to have lapsed to Idar. His widow, however, was allowed by the Gaikwār to adopt Pratāp Singh, Karan Singh's brother, on whose death in 1821 Modāsa was united with Ahmadnagar. On the death of Amīr Singh of Bāyad without children, the reversion was claimed by both Idar and Ahmadnagar. The chief of Ahmadnagar, Karan Singh, died in 1835, and was succeeded by his son Takht Singh, who was elected ruler of the State of Jodhpur in 1843. On his removal to Jodhpur, he still claimed the right to retain Ahmadnagar in his family; but in 1848 the British Government decided that Ahmadnagar should revert to Idar, and with it Modāsa and Bāyad. The chief, who is styled Mahārājā, is a Rājput of the Rāthor clan and of the Joda family. He holds a *sanad* granting the right of adoption and is entitled to a salute of 15 guns. The present Mahārājā is Major-General Sir Pratāp Singh, G.C.S.I., K.C.B., Aide-de-camp to His Majesty the King-Emperor.

The population of the State was 217,382 in 1872, 258,429 in 1881, 302,134 in 1891, and 168,557 in 1901. The decrease of 44 per cent. during the last decade is due to the severity of the famine of 1899-1900. The number of towns and villages was returned in 1901 as 884. The density of population is 101 persons per square mile. The chief towns are AHMADNAGAR (population, 3,200), the capital, IDAR (7,085), and VADĀLI (4,611). Classified according to religion, Hindus numbered 156,948, Muhammadans 8,200, and Jains 4,376. The majority of the population are Kolīs, the remainder consisting of Rājputs, Brāhmans, Baniās, Kunbis, Bhīls, &c.

The soil of the State is generally fertile; in some places it is of a light sandy nature, in others rich and black; towards the north and

north-eastern parts near the hills, poor and stony. Nearly 17 per cent. of the land is cultivated. The principal crops are grains, oilseeds, and sugar-cane. The jungle in some parts, particularly at the foot of the hills, is very thick and intersected with ravines. A small quantity of country soap is manufactured. There are quarries in the neighbourhood of Ahmadnagar, and the stone is used for building purposes. The State suffered very severely in the famine of 1899–1900.

The chief exercises first-class jurisdiction, having power to inflict capital punishment. Many relatives of the Mahārājā, and feudal chiefs whose ancestors helped to secure the country for the present dynasty, now enjoy large estates on service tenures, and there are numerous petty chiefs or *bhūmiās* who have held considerable estates from the time of the Raos of Idar, or earlier, and are under no obligation of service. The revenues of the State are shared by the Mahārājā with these feudal chiefs. In 1903–4, out of a total gross revenue of nearly 6 lakhs, it was estimated that only 4½ lakhs was received by the central authority. The chief sources of revenue are the land, stamps, and special cesses known as *dan*, *khichadi*, &c., and the chief heads of expenditure are classed under administration and *darbār* expenses. The Mahārājā receives about Rs. 8,600 annually from several chiefs in Mahī Kāntha, and pays Rs. 30,340 as tribute to the Gaikwār of Baroda through the British Government. Many chiefs subordinate to Idar, known locally as *pattāwals*, hold their estates on condition of military service, the quota being three horsemen for every 1,000 rupees of revenue; but for many years this service has not been exacted and no military force is maintained at present. In 1903–4 the State contained 21 courts for criminal justice, and maintained a police force of 91 mounted men and 539 foot, at an annual cost of Rs. 76,000. Besides these, 36 mounted men and 150 foot are maintained at a cost of Rs. 10,800 in the territories of the *bhūmiās*. There were 49 schools in the same year with 2,473 pupils, of which 7 were girls' schools. The total expenditure on education, excluding schools in Sardārs' villages, was Rs. 11,330. There are also 3 missionary schools with 106 pupils. An attempt to induce the Bhīls to send their children to school has failed; they laughingly say their sons must learn to drive cattle and use the bow. The State contains a hospital and six dispensaries, treating annually 19,000 patients.

Idar Town.—Formerly the capital of the State of Idar, in the Mahī Kāntha Agency, Bombay, situated in 23° 50′ N. and 73° 4′ E., 64 miles north-east of Ahmadābād. The town is traditionally known as Ildurg. Population (1901), 7,085. Idar is surrounded by a brick wall in fair preservation, through which a road passes by a stone gateway, marked with many red hands each recording a victim to the rite of *satī*. In the vicinity are some cave-temples supposed to be

upwards of four hundred years old. The town contains a dispensary, and is administered as a municipality with an income (1903-4) of Rs. 1,348 and expenditure of Rs. 803.

Igatpuri Tāluka.—*Tāluka* of Nāsik District, Bombay, lying between 19° 35′ and 19° 55′ N. and 73° 25′ and 73° 50′ E., with an area of 393 square miles. It contains one town, IGATPURI (population, 7,436), the head-quarters; and 127 villages. The population in 1901 was 66,462, compared with 69,543 in 1891. The density, 169 persons per square mile, is much above the District average. The demand for land revenue in 1903-4 was one lakh, and for cesses Rs. 7,000. In the north-west and in the south the country is hilly. The line of natural drainage divides it into two parts: a small section in the north and north-west that slopes west to the Vaitarna, and a larger section in the south that drains east into the Dārna. The *tāluka* is rather bare of trees except in the north-east and west, and the soil is poor and shallow. The climate is cool and healthy, the rainfall, which averages 133 inches annually, being the highest in the District. The water-supply is poor. *Nāgli* is the chief cereal grown.

Igatpuri Town.—Head-quarters of the *tāluka* of the same name in Nāsik District, Bombay, situated in 19° 42′ E. and 73° 34′ N., on the Great Indian Peninsula Railway, 35 miles south-west of Nāsik and 85 miles from Bombay. Population (1901), 7,436. Igatpuri is a military station of the Poona division of the Western Command. It stands at the head of the Thal Pass, 1,992 feet above sea-level. Half a mile to the north-east is a reservoir. The railway station includes a locomotive workshop. Pimpri, near Igatpuri, contains the tomb of Sadr-ud-dīn, a Muhammadan saint of great local sanctity; and Tringalvādi, 3 miles to the north, has a fort, cave-temples, and a ruined shrine of Brahmadeo. Igatpuri was constituted a municipality in 1868. The municipal income during the decade ending 1901 averaged Rs. 12,000. In 1903-4 the income was Rs. 8,000. The town contains five English schools, of which one is for European and Eurasian girls; and two dispensaries, one of which belongs to the railway company.

Iggutappadevarbetta.—Lofty mountain in the Pādinālknād *tāluk* of Coorg, Southern India, situated in 12° 17′ N. and 75° 38′ E., near the Paditora pass, sacred to the god Iggutappa.

Iglās.—Central western *tahsīl* of Alīgarh District, United Provinces, comprising the *parganas* of Hasangarh and Gorai, and lying between 27° 35′ and 27° 55′ N. and 77° 47′ and 78° 3′ E., with an area of 213 square miles. Population increased from 107,227 in 1891 to 118,803 in 1901. There are 209 villages and one town, Beswān (population, 2,871). The demand for land revenue in 1903-4 was Rs. 2,96,000, and for cesses Rs. 49,000. The *tahsīl* is intersected by

high ridges of sandy soil with good loam between. There is no canal-irrigation, and well-irrigation has become more difficult of late years owing to a fall in the spring-level. In 1903-4 the area under cultivation was 187 square miles, of which only 78 were irrigated.

Ijpura.—Petty State in MAHĪ KĀNTHA, Bombay.

Ikkeri.—Village in the Sāgar *tāluk* of Shimoga District, Mysore, situated in 14° 7′ N. and 75° 1′ E., 3 miles south of Sāgar town. Population (1901), 205. Ikkeri ('the two streets') was from about 1560 to 1640 the capital of the Keladi chiefs, afterwards removed to Bednūr. Ikkeri continued, however, to be the nominal capital, the Rājās were called by its name, and the coins were called Ikkeri pagodas and fanams, although the mint was removed. The walls were of great extent, forming three concentric enclosures. In the citadel was the palace, of mud and timber, adorned with carving and false gilding. The only building now remaining is the Aghoresvara temple. On the floor in front of the shrine are effigies of three of the kings, doing obeisance, with their names over each. Huchcha ('mad') Somasekhara is represented as manacled and fettered. The space between the central pillars, 18½ feet, was the standard measure for garden land.

Ilām Bāzār.—Village in the head-quarters subdivision of Birbhūm District, Bengal, situated in 23° 38′ N. and 87° 32′ E., on the banks of the Ajay river. Population (1901), 1,815. It is the seat of a considerable trade, and is celebrated for its manufacture of lac ornaments and toys, *tasar* silk, and brass-ware.

Ilichpur.—District, *tāluk*, and town in Berār. *See* ELLICHPUR.

Ilkal.—Town in the Hungund *tāluka* of Bijāpur District, Bombay, situated in 15° 57′ N. and 76° 7′ E., 8 miles south-east of Hungund. Population (1901), 9,019. The municipality was created in 1868, and had an average income during the decade ending 1901 of Rs. 7,700. In 1903-4 the income was Rs. 6,400. A large masonry embankment was constructed in 1886, at a cost of Rs. 15,700, to protect the town from floods. Ilkal is the principal market-town of the *tāluka* and a centre of the weaving and dyeing industries; the staple exports are silk and cotton manufactures and agricultural produce. Cotton cloth, manufactured into *sārīs* for women's dress, is exported to Sholāpur, Poona, Belgaum, and the Nizām's Dominions. There are three modern temples. A yearly fair is held in honour of Bānshankari on the full moon of Paush (January-February). The town contains a dispensary.

Ilol.—Petty State in MAHĪ KĀNTHA, Bombay.

Imphal.—Capital of the State of Manipur, Eastern Bengal and Assam, situated in 24° 49′ N. and 93° 57′ E. A cart-road connects Imphal with Kohīmā and the Brahmaputra Valley, and bridle-paths

cross the hills that separate Manipur from Cāchār and Burma. The population in 1901 was 67,093, of whom nearly 96 per cent. were Hindus. The history of Imphal cannot be distinguished from that of the MANIPUR STATE, but of recent years it has been notorious owing to the outbreak that occurred there in 1891. A palace revolution had taken place, the Rājā had fled from the country, and the Chief Commissioner, Mr. Quinton, had proceeded to Manipur to settle the newly appointed ruler on the throne, and to arrest the Senāpati who was the original instigator of the revolution. The Senāpati declined to obey the summons of the Chief Commissioner, and the troops sent to arrest him were fiercely attacked. The engagement continued till the evening, when an armistice was agreed to, and the Chief Commissioner, with four officers, entered the Rājā's fort under a safe-conduct. The Manipurīs, however, broke faith, the Political Agent was speared, and the Chief Commissioner and his three companions formally beheaded by the public executioner. The attack on the Residency was then resumed; and the defenders, thinking it untenable, retreated to Cāchār. A few weeks afterwards Imphal was re-entered by three columns of troops and satisfaction exacted for the outrage.

Though containing a large population, Imphal is an overgrown village rather than a town in the ordinary sense of the word, and more than half the working males are dependent on agriculture for their support. Three rivers converge at this point; and along the banks of each river is a single row of cottages, each standing in a garden about half an acre in extent and buried in dense groves of bamboos and fruit trees. Viewed from above, the town has the appearance of a dense forest with a large square clearing in the centre. In this clearing are situated the palace of the Rājā, the cantonments and offices, and the houses of the European residents. The town contains a small jail with accommodation for 100 prisoners, and a hospital with 14 beds. The rainfall is moderate (70 inches), and as Imphal lies about 2,000 feet above the sea, the climate is cool and pleasant. The daily bazar held in the town is the great centre of trade for the valley. Drinking-water is usually obtained from the rivers, which are exposed to every form of pollution, and outbreaks of cholera are frequent and severe.

Indāpur Tāluka.—*Tāluka* of Poona District, Bombay, lying between 17° 54′ and 18° 20′ N. and 74° 39′ and 75° 10′ E., with an area of 567 square miles. It contains one town, INDĀPUR (population, 5,533), its head-quarters; and 85 villages. The population in 1901 was 66,895, compared with 70,986 in 1891. The density, 118 persons per square mile, is much below the District average. The demand for land revenue in 1903-4 was 1·1 lakhs, and for cesses

Rs. 7,500. The country is hilly and rugged in the north-west and centre, but towards the rivers it is open and smooth. The soils are extremely shallow and stony. As regards rainfall, Indāpur is one of the worst-placed *tālukas* in the Deccan, the annual average being only about 20 inches.

Indāpur Town.—Head-quarters of the *tāluka* of the same name in Poona District, Bombay, situated in 18° 7′ N. and 75° 2′ E., 84 miles south-east of Poona city. Population (1901), 5,533. A weekly market and a fair, attended by Muhammadans, is held annually in November. The municipality, established in 1865, had an average income during the decade ending 1901 of Rs. 3,900. In 1903–4 the income was Rs. 3,900. The town has a dispensary, established in 1870, and is celebrated for the manufacture of coarse cotton cloth. There are two schools, one for boys with 216 pupils, and one for girls with 36.

Indarpat.—Village in Delhi District, Punjab, occupying the site of the ancient Indraprastha, and situated in 28° 36′ N. and 77° 17′ E., close to the modern city of Delhi. The original town stood upon the banks of the Jumna, between the Kotila of Fīroz Shāh and the tomb of Humāyūn; and although the river has now shifted its channel a mile eastward, the former bed may still be traced past the early site. Scarcely a stone of the ancient capital remains standing; but the village of Indarpat and the Muhammadan fort of Purāna Kila probably occupy the true site, while the modern name is obviously a corruption of the old Hindu name. Indraprastha is commonly believed to have been founded by the earliest Aryan colonists of India; and the Mahābhārata relates how the five Pāndavas, Yudhishthira and his brethren, leading a body of settlers from Hastināpur on the Ganges, expelled the savage Nāgās, and built their capital upon this spot. For later details see DELHI CITY.

Indaw (formerly Manle).—Central township of Kathā District, Upper Burma, lying between 23° 57′ and 24° 23′ N. and 95° 58′ and 96° 16′ E., on either side of the Sagaing-Myitkyinā railway, with an area of 416 square miles. The population was 11,291 in 1891, and 14,208 in 1901, distributed in 151 villages. The head-quarters are at Indaw (population, 470), on the railway. The township is watered by the Meza river. In some parts there are wide plains, affording scope for large expansion of cultivation. The township contained 18 square miles under cultivation in 1903–4, and the land revenue and *thathameda* amounted to Rs. 49,200.

Indawgyi.—Lake in the south-west of Myitkyinā District, Upper Burma, lying between 25° 5′ and 25° 20′ N. and 96° 18′ and 96° 23′ E., and measuring about 16 miles by 6. It is the largest lake in Burma. It is surrounded by low hills on the south, east, and west; and its

overflow, known as the Indaw stream, flows first north-eastward and then south-eastward into the Mogaung, which enters the Irrawaddy some distance south of Myitkyinā. The lake abounds in fish, and the valley surrounding it is fertile.

Indhyādri.—Hill range in Bombay, Berār, and Hyderābād. *See* AJANTA.

Indi Tāluka.—Northernmost *tāluka* of Bijāpur District, Bombay, lying between 16° 56′ and 17° 29′ N. and 75° 33′ and 76° 12′ E., with an area of 838 square miles. It contains 121 villages, but no town, the head-quarters being at the village of Indi. The population in 1901 was 75,961, compared with 92,479 in 1891. The rate of decrease was very high, and the density of population is lower than in other *tālukas*, owing to the poverty of the soil. The demand for land revenue in 1903–4 was 2·03 lakhs, and for cesses Rs. 15,000. Indi is an unbroken and almost treeless plain. Towards the south and south-east near Hutturki, Tāmba, and Shirshad, and along the streams running by those villages, the country is populous and well cultivated and the villages are comparatively rich. The annual rainfall averages nearly 25 inches.

Indi Village.—Head-quarters of the *tāluka* of the same name in Bijāpur District, Bombay, situated in 17° 11′ N. and 76° E., on the Southern Mahratta Railway. Population (1901), 4,427. In the *Bhīma Māhātmya* Indi is described as the Paya Kshetra, or 'milk spot,' and Palci was known as Chik Indi, or 'little Indi.' Its origin is connected by a tradition with the discovery of a sacred *lingam* through a cow giving milk at the spot where the *lingam* lay buried. There is a shrine of Kanteshwar or Shanteshwar at Indi. In 1790 it was the chief town of a subdivision in the Bijāpur *sarkār*. The village contains a dispensary, two boys' schools with 204 pupils, and a girls' school with 31.

Indore Residency.—A Political Charge in Central India, created in 1818. In 1854 the appointment of Resident at Indore was merged in that of the Agent to the Governor-General for Central India, who continued to hold direct charge of portions of the Indore State in addition to the superior control of the whole Agency. It was found necessary in 1899 to appoint a separate officer to the political charge of the Indore State. The Resident now holds charge of the whole State, except the *parganas* of Lawāni, Chikalda, and Petlāwad, which are under the Political Agent in Bhopāwar; Talen and Sundarsī, under the Political Agent, Bhopāl; Nandwās (or Nandwai), under the Mewār Residency, Rājputāna; and Alampur, under the Political Agent in Bundelkhand.

The Residency has an area of 8,960 square miles, and a population (1901) of 833,410, of whom Hindus number 662,888, or 79 per cent.; Musalmāns, 77,825; Animists, 73,638; Jains, 13,487; and Christians,

4,565. The density of population is 93 persons per square mile. The chief towns are INDORE CITY (population, including the Agent to the Governor-General's Camp or Residency limits, 97,804), the cantonment of MHOW (36,039), RĀMPURA (8,273), KHARGON (7,624), MAHESHWAR (7,042), MEHIDPUR (6,681), BARWĀHA (6,094), BHĀNPURA (4,639), and TARĀNA (4,490). There are also 3,089 villages in the charge. The Resident has his head-quarters in the Agent to the Governor-General's Camp at Indore city.

Indore State (*Indur*).—Native State in the Central India Agency, under the Resident at Indore, lying between 21° 22′ and 26° 3′ N. and 74° 30′ and 78° 51′ E., with an area of 9,500 square miles, including the isolated *pargana* of Nandwās or Nandwai (area 36 square miles), which lies geographically in Rājputāna. It is bounded on the north by Gwalior State; on the east by the States of Dewās and Dhār and the Nimār District of the Central Provinces; on the south by the Khāndesh District of the Bombay Presidency; and on the west by the States of Barwānī and Dhār. The State takes its name from its capital, originally the small village of Indreshwar or Indore, which was first raised to a place of importance in the eighteenth century, and after 1818 became the permanent seat of the Holkar family.

Physical aspects.

The State is formed of several detached tracts, of which the largest and most compact lies south of the Narbadā river. These tracts may be conveniently divided into two main sections, which correspond to the natural divisions of the plateau and the hilly tract. The plateau section comprises the portion which lies in Mālwā proper, and is included in the RĀMPURA-BHĀNPURA, MEHIDPUR, and INDORE districts. The country in this section, except for the range lying north of Rāmpura and some scattered hills in the Mehidpur district and Petlāwad *pargana*, is typical of MĀLWĀ generally. The hilly tract, which comprises the NIMĀR and NEMĀWAR districts, lies partly on and partly south of the great Vindhyan scarp, the Nimār district including also a portion of the Sātpurā range. The plateau section has an area of 4,320 square miles, the hilly tract an area of 5,143 square miles. Besides these two sections, the small isolated *pargana* of ALAMPUR in Bundelkhand, with an area of 37 square miles, owes its existence solely to the presence in it of the cenotaph of Malhār Rao Holkar. The great Vindhyan range, which almost bisects the State, determines its watershed. All the streams north of this barrier flow towards the Jumna-Ganges *doāb*, the chief stream being the CHAMBAL, with its tributaries, the SIPRĀ and lesser and greater KĀLĪ SIND. To the south of the Vindhyas lies the NARBADĀ river, with its numerous tributaries.

[1] Very little is known concerning the geology of the territories that

[1] By Mr. E. Vredenburg, Geological Survey of India.

constitute Holkar's dominions. The principal rock in Mālwā is Deccan trap, weathering superficially into the black soil to which the region owes its great fertility. Near Rāmpura, east of Nīmach, Vindhyan rocks of both upper and lower series are exposed, in addition to the Deccan trap. The districts south of the Narbadā, largely occupied by the northern spurs of the Sātpurā Hills, consist principally of Deccan trap. North of the Narbadā, the denudation of the Deccan trap has proceeded far enough to bring into view an interesting sequence of the underlying rocks, including gneiss, Bijāwars, and Lametas. Gneiss occupies a large portion of the Nemāwar district, being overlaid, north of Chāndgarh, by Bijāwar and Vindhyan strata. Between Kātkūt and the Kanār river and at other places near Barwāha, peculiar fault breccias occur either within the Bijāwar outcrop, or separating the Bijāwars from the Vindhyans. The matrix of the breccia is usually siliceous, but often contains a large admixture of hematite. Strata belonging to the Lameta or infra-trappean group cover a large area around Kātkūt. They are mostly sandstones underlaid by conglomerates. Round Kātkūt the Lameta beds are unfossiliferous and probably of fresh-water origin; but north of Barwāha, at the Ghātia quarries, the conglomerate underlying the sandstone contains marine fossils identical with those found in the cretaceous limestones east of BĀGH known as the Bāgh beds. The exposure at the Ghātia quarry marks the easternmost limit reached by the sea in which the Bāgh beds were deposited.

The Lameta group contains excellent building stones. The sandstone quarries at Ghātia north of Barwāha, and those situated on the banks of the Kanār river, east of Kātkūt, have supplied a great deal of the material used for constructing the Holkar State Railway. One of the limestones is a rock made up of fragments of marine organisms resembling corals, known for that reason as coralline limestone. It constitutes a stone of great beauty, which has been largely used in the ancient buildings of MĀNDU, for which it was obtained from the old quarries near Chirākhān. This locality has been famous geologically since 1856, owing to the discovery there by Colonel Keatinge of the Cretaceous fossils which settled the age of the Bāgh beds.

The low rocky hills of northern Indore often bear a stunted jungle containing *Butea frondosa*, *Acacia arabica*, *A. Catechu*, and *A. leucophloea*, and many shrubs, such as species of *Grewia*, *Zizyphus*, *Capparis*, *Carissa*, and *Tamarix*. In places where the forest is taller, the leading species are *Bombax malabaricum*, *Sterculia urens*, *Anogeissus latifolia* and *A. pendula*, *Dichrostachys*, *Prosopis*, and species of *Cordia*. Farther south are tracts with principally *salai* (*Boswellia serrata*) and a thin scrub jungle of *Flueggea*, *Phyllanthus*, *Antidesma*, and similar shrubs. Still farther south occur typical forests of the Central Indian highland class, with teak, *sāj* (*Terminalia tomentosa*),

tendū (*Diospyros tomentosa*), black-wood (*Dalbergia latifolia*), *tinis* (*Ougeinia dalbergioides*), *anjan* (*Hardwickia binata*), and similar species.

All the ordinary wild animals are met with, including tigers, leopards, bears, hyenas, *sāmbar*, *chītal*, and antelope. Bison (*Bos gaurus*) and wild buffalo (*Bubalus arni*) were formerly plentiful in the Sātpurā region, but are now almost, if not quite, extinct. In the Mughal period elephants were caught in the Bijāgarh and SATWĀS forests. Small game is plentiful throughout the State.

The climate in Mālwā is temperate; the temperature varies in the hot season from 46° to 110° and in the cold season from 40° to 90°. In the districts south of the Vindhyan scarp, however, much higher temperatures are met with, while the cold season is of short duration. The annual rainfall on the plateau area averages 30 inches, and in the hilly tract 40 inches.

History.

The Holkars belong to the Dhangar or shepherd caste. Their ancestors are said to have migrated southwards to the Deccan from the region round Muttra, and to have settled at the village of Hal or Hol on the Nīra river, 40 miles from Poona, whence they take their family name. Malhār Rao Holkar, the founder of the house of Indore, was born in 1694, being the only son of Khandojī, a simple peasant. On the death of his father, he and his mother went to live in Khāndesh with Nārāyanjī, his mother's brother, a man of some property, who maintained a body of horse for his overlord Sardār Kadam Bānde. Malhār Rao was enrolled in this body of horse, and at the same time married his uncle's daughter, Gautama Bai. His soldierly qualities rapidly brought him to the front, and attracted the notice of the Peshwā, who in 1724 took him into his service and gave him the command of 500 horse. Sardār Kadam was delighted at the young man's prowess, and permitted him to assume and fly at the head of his body of horse the banner of the Bānde family, a triangular red and white striped flag, to this day the ensign of the Holkar house. In 1728 he received a grant of 12 districts in Mālwā, increased to 82 in 1731. Previous to this he had acquired land south of the Narbadā, including the town of Maheshwar, which practically remained the capital of the Holkar dominions until 1818, as Indore, acquired in 1733, did not become the real administrative capital until after the Treaty of Mandasor. Malhār Rao at this time possessed territory yielding an income of 74½ lakhs a year, the Peshwā honouring him with the title of *Sūbahdār* of Mālwā. He was continually employed in the Peshwā's conquests, against the Nizām (1738), the Portuguese at Bassein (1739), and the Rohillas (1751); and his influence and possessions increased rapidly. In 1761 came the disastrous battle of Pānīpat, which broke the Marāthā power for

a time. Thus Malhār Rao, from being the son of a small peasant, had become at sixty-seven the holder of vast territories stretching from the Deccan to the Ganges. After the flight from Pānīpat, he proceeded to establish and consolidate his power in his possessions. Death, however, overtook him suddenly at ALAMPUR on May 2, 1766. Malhār Rao was primarily a soldier, and in no way the equal of his contemporary Mahādjī Sindhia as a politician; but his courage was unsurpassed, and his disregard of money proverbial. He had one son, Khande Rao, who was killed in 1754. Khande Rao's son, Māle Rao, was a boy of weak intellect. He was allowed to succeed, but soon showed by his excesses that he was unfit to rule, and died a raving madman in 1767. His mother, Ahalyā Bai, refused to adopt an heir and personally assumed charge of the administration of the State. The Peshwā's uncle, Raghuba, who was then in Central India, wished to compel her to adopt: but Mahādjī Sindhia supported Ahalyā Bai, and her position was at length recognized. She selected Tukojī Rao Holkar, a member of the same clan but not related to the ruling family, to bear titular honours and command her armies. He was a simple soldier, and served Ahalyā Bai with unswerving loyalty until her death.

The administration of Ahalyā Bai is still looked upon in Central India as that of a model ruler. Her toleration, justice, and careful management of all the departments of the State were soon shown in the increased prosperity of her dominions, and the peace which ruled throughout her days. Her charities, which extended all over India, and include buildings at Badrīnāth, Gayā, and Rāmeswaram, are proverbial. It was during her rule that the Holkar Darbār first employed regular battalions under Chevalier Dudrenec, Boyd, and others.

On the death of Ahalyā Bai in 1795, Tukojī Rao succeeded. Mahādjī Sindhia had died in 1794, and Tukojī, now seventy years of age, was looked up to as the leading Marāthā chief. He followed in the steps of Ahalyā Bai, and during his life the prosperity of the State continued. Politically, he acted as a check on the youthful and warlike Daulat Rao Sindhia, which went far to secure general tranquillity; but he died in 1797, and confusion at once followed. Tukojī Rao left two legitimate sons, Kāshī Rao and Malhār Rao; and two illegitimate sons, Jaswant Rao and Vithojī. Kāshi Rao was of weak intellect, and Malhār Rao had attempted to be recognized by Tukojī as successor. Failing to attain his desire, Malhār Rao threw himself on the protection of Nāna Farnavīs. Kāshī Rao then appealed to Daulat Rao Sindhia, who at once seized this opportunity of becoming practically the manager of the Holkar estates, and Malhār Rao was attacked and killed. From this disaster, Jaswant Rao and Vithojī escaped. The former, after a fugitive life spent partly as a prisoner at Nāgpur and partly at Dhār, managed at length to raise a force

and appeared as the champion of Khande Rao, a posthumous son of Malhār Rao, being joined in 1798 by Amīr Khān (afterwards Nawāb of TONK). Kāshī Rao's troops under Dudrenec were defeated at Kasrāwad, whereupon Dudrenec transferred his allegiance and his battalions to Jaswant Rao, who entered the capital town of Maheshwar and seized the treasury there. Soon afterwards, however, he was defeated at Satwās by some of Sindhia's battalions and retired on Indore, but subsequently attacked Ujjain, extracting a large sum from its inhabitants. In October, 1801, Sarje Rao Ghātke, the notorious minister of Daulat Rao Sindhia, sacked Indore, practising every kind of atrocity on the inhabitants and razing the town to the ground. Jaswant Rao, however, assisted by Amīr Khān and his Pindāris, then proceeded to scour the country from the Jumna to the Nizām's territories. By 1802 he had regained his prestige, and so increased his forces as to be able to attack the Peshwā at Poona. This defeat drove the Peshwā to sign the Treaty of Bassein with the British, and Jaswant Rao was forced to retire to Mālwā. He held aloof during the war of 1803 against Sindhia, possibly in hopes of aggrandizing himself at that chief's expense. But in 1804, after rejecting all offers of negotiation, he finally came into collision with the British forces. In the Mukandwāra pass he gained a temporary success over Colonel Monson, but was defeated by Lord Lake at Dīg (November, 1804). In December, 1805, he was driven to sign the Treaty of Rājpurghāt on the banks of the Beās river, the first engagement entered into between the British Government and the house of Holkar. By this treaty he ceded much land in Rājputāna, but received back certain of his former possessions in the Deccan, while the country round KŪNCH in Bundelkhand was granted in *jāgīr* to his daughter, Bhima Bai, who was married to Govind Rao Bolia. Lord Cornwallis's policy of non-interference, however, gave him another chance; the Rājputāna districts were restored to him, and he proceeded to recoup his shattered fortunes by plundering the Rājput chiefs. In 1806 he poisoned Khande Rao and murdered Kāshī Rao, and thus became in name, what he had long been in fact, the head of the house of Holkar. He began at this time to show signs of insanity, and died a raving lunatic at Bhānpura in 1811.

Jaswant Rao left no legitimate heirs; but before his death, Tulsī Bai, his concubine, a woman of remarkable beauty and superior education, had adopted his illegitimate son, Malhār Rao, who was placed on the *gaddi*, Zālim Singh of Kotah coming to Bhānpura to pay the homage due from a feudatory to his suzerain. After Jaswant Rao's death the State rapidly became involved in difficulties. Revenue was collected at the sword's point indiscriminately from Sindhia's, the Ponwār's, or even Holkar's own territories. There was in fact no real administration, its place being taken by a mere wandering and

predatory court, presided over by a woman whose profligate ways disgusted even her not too particular associates. Plot and anarchy were rife. Tulsī Bai was personally desirous of making terms with the British, but was seized and murdered by her troops, and things rapidly grew from bad to worse.

On the outbreak of the war in 1817 between the British and the Peshwā the Indore Darbār assumed a hostile attitude. The defeat, however, of the State forces by Sir Thomas Hislop's division at MEHIDPUR compelled Holkar to come to terms; and on January 6, 1818, he signed the Treaty of Mandasor, which still governs the relations existing between the State and the British Government. By this agreement Amīr Khān was recognized as an independent chief, all claims on the Rājputāna chiefs were abandoned, and all land held by Holkar south of the Narbadā was given up, while the British Government undertook to keep up a field force sufficient to protect the territory from aggression and maintain its tranquillity (this force still being represented by the Mhow garrison), the State army was reduced to reasonable proportions, and a contingent force raised at the expense of the State to co-operate with the British when required. Ghafūr Khān was recognized as Nawāb of Jaora, independent of the Indore Darbār, and a Resident was appointed at Holkar's court.

The immense benefit conferred by this treaty soon became apparent. The State income in 1817 was scarcely 5 lakhs, and even that sum was only extorted by violence, representing rather the gains of a predatory horde than the revenue of an established State. The administration was taken over by Tāntiā Jogh, who by the time of his death in 1826 had raised the revenue to 27 lakhs, which, added to certain payments made by the British Government and tributary States, brought the total to 30 lakhs. After Tāntiā Jogh's death, however, things again fell into confusion. Malhār Rao was extravagant and weak, and easily led by favourites. Two insurrections broke out, one, of some importance, being led by Harī Rao Holkar, who, however, surrendered and was imprisoned at Maheshwar (1819).

Malhār Rao died in 1833 at twenty-eight years of age, and was succeeded by Mārtand Rao, a boy adopted by the late chief's widow, Gautama Bai. Harī Rao, however, was released from the fort of Maheshwar by his supporters; and as the adoption of Mārtand Rao had been made without the knowledge of the British Government, Harī Rao was formally installed by the Resident in April, 1834, Mārtand Rao receiving a pension. Rājā Bhao Phansia, a confirmed drunkard, had been selected as minister and the administration soon fell into confusion, which was added to by the excessive weakness of the chief. Life and property were unsafe, while numerous intrigues were set on foot on behalf of Mārtand Rao. Harī Rao died in 1843,

and was succeeded by Khande Rao, who was half imbecile and died within four months.

The claims of Mārtand Rao were now again urged, but the British Government declined to sanction his succession. It was then suggested by the Mā Sāhiba Kesara Bai, a widow of Jaswant Rao, that the younger son of Bhao Holkar, uncle to Mārtand Rao, should be chosen, and the youth was installed in 1844 as Tukojī Rao Holkar II. The Regency Council which had held office under the late chief continued, but a close supervision was now maintained by the Resident, and numerous reforms were set on foot. In 1848 the young chief began to take a part in the administration. Kesara Bai, who had been respected by all classes and rendered great assistance to the British authorities, died in 1849. The chief then took a larger share in the government, and showed his aptitude for ruling so rapidly that full powers were granted to him in 1852. In the Mutiny of 1857, Holkar was unable to restrain his troops, who consisted of about 2,000 regular and 4,000 irregular infantry, 2,000 regular and 1,200 irregular cavalry, with 24 guns. The irregular force attacked the Residency, and the Agent to the Governor-General was obliged to retire to Sehore. Holkar personally gave every possible assistance to the authorities at Mhow; he established regular postal communication, and at considerable risk protected many Christians in his palace.

In order to make the Indore State more compact, various exchanges of territory were effected between 1861 and 1868, the districts of Satwās in Nemāwar, of Barwāha, Dhargaon, Kasrāwad, and Mandleshwar in Nimār being exchanged for land held in the Deccan, the United Provinces, and elsewhere. In 1877, 360 square miles of territory in the Sātpurā region were transferred to Holkar as an act of grace and to commemorate the assumption by Her Majesty of the title of Empress of India. A postal convention was effected in 1878 and a salt convention in 1880.

In 1860 a sum of more than 3 lakhs was paid to Holkar as compensation for expenses incurred in raising a body of troops in place of the Mehidpur Contingent, which had mutinied: and in 1865 the contribution to the upkeep of the Mehidpur Contingent and Mālwā Bhil Corps was capitalized. Holkar receives Rs. 25,424 a year in compensation for the Pātan district made over to Bundī in 1818, and Rs. 57,874 tribute from the Partābgarh State in Rājputāna, both payments being made through the British Government. In 1864 he ceded all land required for railways throughout the State, and in 1869 contributed a crore of rupees towards the construction of the Khandwā-Indore branch of the Rājputāna-Mālwā Railway, known as the Holkar State Railway. Tukojī Rao was made a G.C.S.I. in 1861; and at the Delhi assemblage on January 1, 1877, he was made

a Counsellor of the Empress and a C.I.E. He died in 1886 and was succeeded by his eldest son Sivajī Rao, born in 1859.

On his accession, the Mahārājā abolished all transit dues in the State. He visited England in 1887 on the occasion of the Jubilee of the Queen-Empress Victoria, when he was made a G.C.S.I. His administration, however, was not a success, and for the better supervision of so large a State a separate Resident at Indore was appointed in 1899. In 1902 the State coinage was replaced by British currency. In 1903 Sivajī Rao abdicated in favour of his son Tukojī Rao III, the present chief, who is a minor, and is studying at the Mayo College at Ajmer. The ex-Mahārājā lives in the palace at Barwāha, receiving an allowance of 4 lakhs a year. The chief bears the titles of His Highness and Mahārājā-dhirāj Rāj Rājeshwar Sawai Bahādur, and receives a salute of 19 guns, or 21 guns within the limits of Indore territory.

Besides DHAMNĀR and UN, there are no places of known archaeological importance in the State. Remains are, however, numerous throughout the Mālwā district, being principally Jain and Hindu temples of the tenth to the thirteenth century; in some cases the temples have been built from the ruins of older buildings, as for example at Mori, Indok, Jhārda, Makla, and many other places. In the Nimār and Nemāwar districts a considerable number of Muhammadan remains are to be met with, while forts are found throughout the State, those at Hinglājgarh, Bijāgarh, and Sendhwa being the most important.

Population.

There have been three complete enumerations of the State, giving (1881) 1,054,237, (1891) 1,099,990, and (1901) 850,690. The density in 1901 was 90 persons per square mile, rising in the plateau area to 112 persons, and dropping in the hilly tract to 69. The population increased by 4 per cent. between 1881 and 1891, but fell by 23 per cent. in the next decade. The decrease is mainly due to the effect of bad seasons, notably the disastrous famine of 1899-1900, from which the State had not had time to recover when the latest enumeration was made.

The main statistics of population and land revenue are given on the next page.

The chief towns are INDORE CITY, RĀMPURA, KHARGON, MAHESHWAR, MEHIDPUR, BARWĀHA, and BHĀNPURA (excluding the British cantonment of MHOW and the civil station of INDORE). There are also 3,368½ villages, with an average number of 252 inhabitants. Classified by religion, Hindus number 673,107, or 79 per cent.; Animists, 94,047, or 11 per cent.; Musalmāns, 68,862, or 8 per cent.; and Jains, 14,255, or 2 per cent. The principal languages are Mālwī and the allied Nimārī and Rāngrī, spoken by 240,000 persons, or 28 per cent.; and Hindī, spoken by 492,895, or 57 per cent.

The prevailing castes are Brāhmans, 71,000, or 8 per cent.; Balais, 61,000, or 7 per cent.; Rājputs, 57,000, or 7 per cent.; Chamārs, 33,000, or 4 per cent.; and Gūjars, 28,000, or 3 per cent. About 40 per cent. of the population are supported by agriculture, 23 per cent. by general labour, 10 per cent. by State service, and 5 per cent. by mendicancy. Brāhmans and Rājputs are the principal landholders, the cultivators being chiefly Rājputs, Gūjars, Sondhiās, Khātis, and Kunbīs, and in the southern districts Bhilālas.

District.	Area in square miles.	Number of		Population, 1901.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.	Land revenue and cesses of the *khālsa*, 1902-3.
		Towns.	Villages.					Rs.
Alampur (*pargana*)	37	..	26	16,711	452	− 1·9	347	58,900
Rāmpura-Bhānpura	2,123	4	869	156,021	73	− 45·8	7,142	6,92,600
Mehidpur . .	840	2	432¼	91,857	109	− 23·8	2,355	4,77,100
Nemāwar . .	1,059	...	337	74,568	70	− 23·4	2,654	3,64,800
Indore . . .	1,570	2	639	254,423	162	− 5·6	18,729	12,64,700
Nimār . . .	3,871	3	1,065	257,110	66	− 12·4	8,324	9,35,600
Total	9,500	11	3,368¼	850,690	90	− 22·7	39,551	37,93,700

The Canadian Presbyterian Mission have their head-quarters in the Residency, and also carry on work in Indore city. In 1901 native Christians numbered 91.

Agriculture.

The general agricultural conditions vary with the two natural divisions of the State. The plateau section shares in the conditions common to the fertile Mālwā plateau, the soil in this region being mainly of the well-known black cotton variety, producing excellent crops of every kind, while the population is composed of industrious cultivators. In the Nimār and Nemāwar districts the soil is less fertile, except actually in the Narbadā valley, and the rainfall rather lower, while the Bhīls, who form the majority of the population, are very indifferent cultivators. In both cases, the success or failure of the crops depends entirely on the rainfall. The classification of soils adopted by the cultivators themselves is based on the appearance and quality of the soil, its proximity to a village, and its capability for bearing special kinds of crops. The main classes recognized are: *mār* or *kāli matti*, the black cotton soil, of which there are several varieties; *pīli*, a light yellow soil; *pāndhar*, a white soil, of loose texture; *antharpātha*, a black loamy soil with rock close below it; and *kharai*, a red-coloured stony soil. According to their position and crop-bearing qualities, soils are termed *chauras*, 'even'; *dhālu*, 'sloping'; *chhapera*, 'broken' soil; or *rākhad*, land close to villages. Land bearing rice is called *sālgatta*. Only the

black soil yields a spring as well as an autumn crop. Manuring is not much resorted to, except in the case of special crops or on land close to villages, where manure is easily procurable. All irrigated land produces as a rule two crops.

Of the total area of the State, 1,280 square miles, or 12 per cent., have been alienated in grants, leaving 8,220 square miles directly under the State. Of this, 1,738 square miles, or 21 per cent., were cultivated in 1902-3; 3,000 square miles, or 36 per cent., were forest; 1,841 square miles, or 22 per cent., cultivable but not cultivated; and the rest waste.

The principal statistics of cultivation in 1902-3 are shown in the following table, in square miles:—

District	Total.	Cultivated (*khālsa*)	Irrigated	Cultivable waste (*khālsa*).
Alampur (*pargana*)	37	29	0·3	3
Rāmpura-Bhānpura	2,123	330	36	146
Mehidpur	840	261	2	453
Nemāwar	1,059	200	8	256
Indore	1,570	578	19·7	428
Nimār	3,871	340	17	555
Total	9,500	1,738	83	1,841

The chief autumn crops are, in square miles: cotton (220), *jowār* (178), *bājra* (93), maize (82), and *tūar* (38); the chief spring crops are gram (1,021), *alsī* (143), poppy (35), and wheat (34). The staple food-grains are maize, *jowār*, *bājra*, wheat, barley, gram, and *tūar*.

All attempts to introduce new varieties of seed have been hitherto unsuccessful. The State makes liberal allowances in both seed and cash to cultivators in villages managed directly by Darbār officers. The advances are repayable at harvest, interest at the rate of 12½ per cent. being charged. No interest is charged on cash advances for the purchase of bullocks. In the case of villages farmed out the farmer makes the advances, receiving one and a quarter or one and a half times the amount advanced.

There are two local breeds of cattle, the Mālwī and Nimārī. Those of the Mālwī breed are medium-sized, generally of a grey, silver-grey, or white colour, and are strong and active. The Nimārī breed is much larger than the Mālwī, and well adapted to heavy work. These cattle are usually of a broken red and white colour, more rarely all red with white spots. They are bought for military purposes.

Only 5 per cent. of the total cultivated area is irrigated, and irrigation is mainly confined to certain crops, such as poppy and sugar-cane, which can only be grown by means of artificial watering. The yellow

soil, which is met with in some quantity in the Rāmpura-Bhānpura and Nimār districts and in the Petlāwad *pargana*, requires watering for the production of good crops of all kinds, and irrigation is, therefore, much more common in these districts than elsewhere. Irrigation is usually done from wells by means of a lift. The construction of irrigation works was greatly encouraged by Mahārājā Tukojī Rao Holkar II. The wells belong as a rule to private individuals, and tanks and dams to the State; the latter were formerly under district officers, and have, through neglect, fallen into bad repair. A regular irrigation branch has now been started, and large sums have been sanctioned for the restoration of old irrigation works and the construction of new ones. The revenue paid by the cultivators depends on the crop-bearing power of the soil, the possibility of irrigation, and its proximity to a village, which facilitates manuring.

Forests.

Forests cover approximately 3,000 square miles. Prior to 1903 they were roughly divided into 'major' and 'minor' jungles, controlled respectively by the State Forest department and the district officials. Contractors were permitted to collect forest produce, paying the requisite dues on leaving the forest. An experienced Forest officer has now been put in charge with a view to systematic management. Every facility is given in famine years for the grazing of cattle and collection of jungle produce. In 1902–3 the forest receipts were 1·8 lakhs, and the expenditure was Rs. 59,000. The forests lie in three belts. In the hilly region north of Rāmpura-Bhānpura *sādad* or *sāj* (*Terminalia tomentosa*), *dhaora* (*Anogeissus latifolia*), *lendya* (*Lagerstroemia parviflora*), *khair* (*Acacia Catechu*), and *tendū* (*Diospyros tomentosa*) prevail; on the main line of the Vindhyas north of the Narbadā, and also in the country south of that river, including the heavy forest area of the Sātpurās, teak, *anjan* (*Hardwickia binata*), and *salai* (*Boswellia serrata*) occur.

No mineral deposits of any commercial value are known in the State, although hematite exists in large quantities at Barwāha and was formerly worked. Building stone of good quality is obtained in a few places, the quarries at Ghātia and Kātkūt being the most important.

Trade and communications.

The manufactures of the State are of little importance, but the cotton fabrics produced at MAHESHWAR are well-known. A cotton mill has been in existence in Indore city since 1870, producing coarse cloth, chiefly for local use. The mill was originally worked by the State, but since 1903 has been leased to a contractor, who also rents the ginning factory and press attached. About 500 hands are employed, wages ranging from 2 to 6 annas a day. A State workshop under the Public Works department was opened in 1905, which undertakes casting and forging, carriage-building, and other work.

A considerable trade is carried on in grain, hemp fibres, cotton, and opium, which are exported to Bombay. The principal imports are European hardware, machinery, piece-goods, kerosene oil, European stores, and wines. The chief trade centres are Indore, Mhow, Barwāha, Sanāwad, and Tarāna.

The Indore State is traversed by the Khandwā-Ajmer branch of the Rājputāna-Mālwā Railway. The section from Indore to Khandwā through Mhow cantonment is known as the Holkar State Railway, the Darbār having granted a loan of one crore for its construction. The line crosses the Narbadā at the foot of the Vindhyan scarp by a bridge of fourteen spans of 200 feet each. The Ratlām-Godhra branch of the Bombay, Baroda, and Central India Railway passes through the Petlāwad *pargana*, and the Bhopāl-Ujjain Railway through the Mehidpur district, with a station at Tarāna Road. The Nāgda-Bāran-Muttra line, now under construction, will pass through the Mehidpur and Rāmpura-Bhānpura districts.

The chief metalled roads are the Agra-Bombay road, of which 80 miles lie in the State; the Indore-Simrol-Khandwā road, with 50 miles; and the Mhow-Nīmach road, 12 miles in length, all of which are maintained by the British Government. Many new roads are now under construction, by which the territory will be considerably opened out.

A State postal system was first started in 1873 by Sir T. Mādhava Rao, when minister to Mahārājā Tukojī Rao II, and three issues of stamps have been made. In 1878 a convention was made with the British Post Office, by which a mutual exchange of correspondence was arranged. There are also twelve British post offices in the State, through which 157,156 articles paid and unpaid were sent in 1903–4, the total cash receipts being Rs. 72,000.

The most serious general famine since the formation of the State was that of 1899–1900, which visited Mālwā with special severity. The distress was enhanced by a succession of bad years, in which the rainfall had been (1895) 29 inches, (1896) 26 inches, (1897) 30 inches, (1898) 39 inches, and (1899) 10 inches; and by the inability of the people to cope with a calamity of which they had had no previous experience. Only 37 per cent. of the land revenue demand was realized in 1899–1900, while prices rose for a time to 100 and even 300 per cent. above the average during the previous five years. Strenuous efforts were made to relieve distress, 15 lakhs being expended from State funds and 3 lakhs from charitable grants, in addition to various works opened as relief works. The disastrous effects were only too apparent in the Census of 1901, while the large number of deserted houses, still to be seen in every village, show even more forcibly the severity of the calamity. The number of

Famine.

persons who came on relief for one day was 572,317, or more than half the total population.

The State is divided for administrative purposes into five *zilas* or districts—INDORE, MEHIDPUR, RĀMPURA-BHĀNPURA, NEMĀWAR, and NIMĀR—besides the isolated *pargana* of ALAMPUR, which is separately managed. Each *zila* is in charge of a *Sūbah*, who is the revenue officer for his charge and a magistrate of the first class. Subdivisions of the *zilas*, called *parganas*, are in charge of *amīns*, who are subordinate magistrates and revenue officers and act under the orders of the *Sūbah*.

Administration.

The chief being a minor, the ultimate administrative control is at present vested in the Resident, who is assisted by a minister and a Council of Regency of ten members, who hold office for three years. The minister is the chief executive officer. A special judicial committee of three members deals with appeals and judicial matters, while separate members individually control the judicial, revenue, settlement, finance, and other administrative departments.

The judicial system consists of the Sadr or High Court, presided over by the chief justice with a joint judge, and district and sessions courts subordinate to it. The Sadr Court has power to pass any legal sentence, but the confirmation of the Resident and Council is required for sentences involving death or imprisonment for more than fourteen years. Its original jurisdiction is unlimited; appeals from it lie to the judicial committee and Council, while all appeals from subordinate courts lie to it. When not a minor, the chief has full powers of life and death over his subjects. Sessions courts can impose sentences of imprisonment up to seven years. The district courts can try cases up to Rs. 1,000 in value. The British codes, and many other Acts modified to suit local requirements, are used in the State. In 1904 the courts disposed of 7,700 original criminal cases and 331 appeals, and 10,763 civil cases and 565 appeals, the value of property in dispute being 1·3 lakhs. The judicial establishment costs about 1·3 lakhs per annum.

The State has a normal revenue of 54 lakhs, of which 38 lakhs are derived from land, 2·7 lakhs from customs, 3·2 lakhs from excise, 1·8 lakhs from forests, and 10 lakhs from interest on Government securities. The chief heads of expenditure are: general administration (14·6 lakhs), chief's establishment (11·8 lakhs), army (9·7 lakhs), public works (5·8 lakhs), police (3·6 lakhs), law and justice (1·6 lakhs), education (Rs. 82,000), *sāyar* or customs (Rs. 71,000), medical and forests (Rs. 59,900 each).

The State is the sole proprietor of the soil, the cultivators having only the right to occupy as long as they continue to pay the revenue assessed. In a few special cases mortgage and alienation are permissible. Villages may be classed in two groups: *khālsa*, or those managed

directly by the State; and *ijāra*, or farmed villages. Leases of the latter are usually given for five years, the farmer being responsible for the whole of the revenue, less 12½ per cent. commission, of which 2½ per cent. is allowed for working expenses and 10 per cent. as actual profit.

Until 1865 whole *parganas* were granted to farmers, a general rate being assessed of Rs. 8 per acre for irrigated and R. 1 for unirrigated land. In that year a rough survey was completed, on which a fifteen years' settlement was made, the demand being 38 lakhs. A fresh assessment was made in 1881; but excessive rates and mismanagement rendered it abortive, only about 45 lakhs being realized annually out of a demand of 65 lakhs. The cultivators despaired of paying off their debts and commenced to leave their homes, while the village bankers refused to advance money. For the best black cotton soil, capable of bearing two crops a year, the rates at present range from Rs. 6 to Rs. 56 per acre. Ordinary irrigated land pays from Rs. 3 to Rs. 8 an acre, the average being about Rs. 4, and unirrigated land from a few annas to R. 1. In 1900 a detailed survey was commenced, and a regular settlement was begun in 1904. In that year 38 lakhs were collected out of a demand of 45 lakhs. A considerable proportion is derived from the high rates paid for land bearing poppy.

Opium is subject to numerous duties. The crude article, called *chīk*, brought into Indore city for manufacture into opium, pays a tax of Rs. 16 per *maund*. The manufactured article, again, is liable to a complicated series of no less than twenty-four impositions, of which fourteen are connected with *satta* transactions or bargain-gambling carried on during its sale. The total amount of the impositions, including an export tax of Rs. 13-8-0 on each chest (140 lb.) exported to Bombay, amounts to Rs. 50 per chest. About Rs. 30,000 a year is derived from the registration and control of the *satta* transactions. In 1902-3, 4,767 chests of opium were exported, and the total income from duties was about 1·8 lakhs.

Salt which has paid the tax in British India is imported for local consumption duty free, under the engagement of 1883, by which the Indore State receives from the British Government Rs. 61,875 per annum in lieu of duties formerly levied.

The excise administration is as yet very imperfect. The out-still and farming systems of British India are followed in different tracts. Liquor is chiefly made from the flowers of the *mahuā* (*Bassia latifolia*), which grows plentifully in the State. In 1902-3 the total receipts on account of country liquor were 1·4 lakhs, giving an incidence of 1 anna 10 pies per head of population.

The State coinage until 1903 consisted of various local issues,

including the *Hāli* rupee coined in Indore city. The British rupee became legal tender in June, 1902.

Municipalities are being gradually constituted throughout the State. Besides Indore city, there are now municipalities at fourteen places, the chief of which are Barwāha, Mehidpur, and Tarāna.

A State Engineer was appointed in the time of Mahārājā Tukojī Rao II, but no regular Public Works department was organized until 1903. It now includes seven divisions, five for district work and two for the city, each division being in charge of a divisional engineer. The department is carrying out a great number of works, including 250 miles of metalled and 40 of unmetalled roads, besides numerous buildings.

The foundation of the Holkar State army was laid in 1792, when Ahalyā Bai, following the example of Mahādjī Sindhia, engaged the services of Chevalier Dudrenec, a French adventurer, known to natives as Huzūr Beg, to raise four regular battalions. Though these battalions were defeated at Lakheri in 1793 by De Boigne, their excellent fighting qualities led to the raising of six fresh battalions, which two years after took part in the battle of Kardla (1795). In 1817 Malhār Rao's army consisted of 10,000 infantry, 15,000 horse, and 100 field guns, besides Pindāris and other irregulars; but the forces were largely reduced under the Treaty of Mandasor (1818). In 1887 Holkar raised a regiment of Imperial Service cavalry, which in 1902 was converted into a transport corps with a cavalry escort. The State army at present consists of 210 artillerymen with 18 serviceable guns, 800 cavalry, and 748 infantry. The transport corps is composed of 200 carts, with 300 ponies and an escort of 200 cavalry.

The policing of the State was formerly carried out by a special force detached from the State army, which consisted of three regiments of irregular infantry, a body of 1,100 irregular horse, a mule battery, and a bullock battery. In 1902 a regular police force was organized, which now consists of an Inspector-General with the administrative staff and 10 inspectors, 50 sub-inspectors, 2,135 constables and head constables, and 140 mounted police with 1 *risāldār*. The State is divided into seven police districts—Alampur, Rāmpura, Bhānpura, Mehidpur, Khargon, Indore, and Mandleshwar—each under a district inspector. The number of rural police or *chaukīdārs* is based on the village area, at the ratio of one *chaukīdār* to each village of 40 to 130 ploughs, two to one of 130 to 190, and six to one of over 260 ploughs.

There were no regular jails in the State before 1875, when Sir T. Mādhava Rao built the Central jail in Indore city. In 1878 the manufacture of coarse cotton cloth and other articles was introduced. There are four district jails, one in each *zila* except Nemāwar, the prisoners for this district being sent to the Nimār jail.

In 1901, 5 per cent. of the people (9·4 males and 0·4 females) were able to read and write. The first definite attempt at encouraging education was made in 1843, during the time of Mahārājā Harī Rao Holkar, who at the solicitation of the Resident, Sir Claude Wade, assigned a large State *dharmsāla* for a school, at the same time levying a small cess on opium chests passing through the city, the proceeds of which were devoted to its upkeep. Four branches were started, for teaching English, Marāthī, Hindī, and Persian, and the institution continued to increase in importance. In 1891 the Holkar College was established, under a European principal. Two boarding-houses were also constructed, which are capable of accommodating 40 students. The College contains on an average 70 students, and is affiliated to the Allahābād University. Scholarships are granted by the State to selected students desirous of pursuing their studies at the Bombay Medical College or elsewhere. Vernacular education in villages was first undertaken in 1865, and 79 schools had been opened by 1868, including 3 for girls. In 1902–3 there were 88 schools for boys with 5,987 pupils, and 3 for girls with 182 pupils.

Till 1850 no steps had been taken by the State to provide medical relief for its subjects. In 1852 Tukojī Rao II, on receiving full powers, made a yearly grant of Rs. 500 to the Indore Charitable Hospital, the Resident at the same time undertaking to maintain a dispensary in Indore city. Soon after, 4 district dispensaries were opened. By 1891, one hospital and 14 dispensaries had been established, and 34 native Vaidyas and Hakīms were employed. There are now 23 district hospitals and dispensaries, and 39 native Vaidyas and Hakīms, besides the Central Tukojī Rao Hospital and dispensaries in the city. The total number of cases treated in 1902–3 was 186,479, of which 37,819 were treated in the Tukojī Rao Hospital. A lunatic asylum is supervised by the jail Superintendent.

Vaccination is carried on regularly, and 7,869 persons, or 9 per 1,000 of the population, were protected in 1902–3.

Indore Zila.—District of the Indore State, Central India, lying between 22° 22′ and 23° 9′ N. and 74° 36′ and 76° 15′ E., with an area of 1,570 square miles. It is bounded on the north by Gwalior; on the west by Gwalior, Dhār, and the British *pargana* of Mānpur; on the south by the Nimār district of Indore; and on the east by Dewās. The district lies mainly on the Mālwā plateau, and shares in the general conditions common to that tract. In the south, where it meets the Vindhyan range, it is somewhat cut up by hills. The population decreased from 279,915 in 1891 to 254,423 in 1901, giving a density in the latter year of 162 persons per square mile. The district contains 639 villages and two towns, Indore City (population, 86,686) and Gautampurā (3,103), besides enclosing the Camp of the Agent to the

Governor-General (see INDORE CITY) and MHOW. It is in charge of a *Sūbah*, whose head-quarters are at Indore city; and for administrative purposes it is divided into seven *parganas*, each in charge of an *amīn*, who is collector and magistrate, with head-quarters at Indore, Betma, Depālpur, Petlāwad, Khurel, Mhow, and Sānwer. The land revenue is about 12·6 lakhs.

A considerable trade in grain and opium is carried on, these commodities being exported mainly from Indore and Mhow. The district is traversed by the Ajmer-Khandwā section of the Rājputāna-Mālwā Railway, and by metalled roads from Agra to Bombay, Indore to Simrol and Khandwā, Mhow to Nīmach, Indore to Betma, and Indore to Depālpur, while many new feeder-roads are under construction.

Indore City (*Indūr*).—Capital of the State of the same name in Central India, situated in 22° 43′ N. and 75° 54′ E., on the banks of two small streams, the Saraswatī and Khān, tributary to the Siprā, and on the Ajmer-Khandwā section of the Rājputāna-Mālwā Railway, 440 miles from Bombay. The city stands 1,738 feet above sea-level, and covers an area of about 5 square miles. A village appears to have been founded here in 1715, when certain *zamīndārs* from the village of Kampel, 16 miles east of Indore, came and settled on the banks of the Khān river, attracted by the trade with the camps of the Marāthā chiefs passing on their way to and from the Deccan, this spot being one of the regular stages on the route north of the Narbadā. In 1741 they erected the temple of Indreshwar, of which the present name is a very common corruption.

Ahalyā Bai is said to have been attracted by the place, and, though Maheshwar remained the chief town in Holkar's territory, she moved the district head-quarters here from Kampel. In 1801, however, the growing prosperity of Indore received a severe check, during the hostilities between Daulat Rao Sindhia and Jaswant Rao Holkar. An engagement took place in which Jaswant Rao was defeated and forced to retire to Jām in the Vindhyas. The town was delivered up to the mercies of the notorious Sarje Rao Ghātke, who plundered the bazar, razed all houses of any importance to the ground, and inflicted every form of atrocity on the inhabitants, so that the wells in the neighbourhood were filled with the corpses of unfortunate women who had committed suicide to escape dishonour. Jaswant Rao always made Rāmpura and Bhānpura his administrative head-quarters, and it was not till after the Treaty of Mandasor (1818) that Indore became the capital of the State in fact as well as in name. In 1857 Indore and the Residency were the scene of considerable disturbances. Holkar's Muhammadan troops mutinied and, after attacking the Resident's house on July 1, marched northwards to join the rebels at Gwalior. The Mahārājā, however, gave all the assistance he could, and, in spite

of the demands of his troops, refused to surrender a number of Christians to whom he had given sanctuary in his palace.

Population is rising steadily: (1881) 75,401, (1891) 82,984, and (1901) 86,686. These figures do not include the residents in the adjoining tract called the Agent to the Governor-General's Camp, which is described below. In 1901 Hindus numbered 65,103, or 75 per cent.; Musalmāns, 18,652, or 21 per cent.; Jains, 2,558; and Pārsīs, 7.

Indore, always an important commercial town, is now one of the largest trade centres in Central India, and the chief collecting and distributing centre for Southern Mālwā. The chief articles of export are grain, tobacco, opium, country paper, cloths, and metal vessels; the chief imports are European hardware, cloth, stores, machinery, building materials, kerosene oil, and raw cotton. There are no arts or manufactures of any importance, except the weaving of coarse cloth carried on in the city cotton mill.

The city is divided into two main divisions: Old Indore, and the modern city with its continually spreading suburbs. The main thoroughfare leads across the Khān river into the great square in front of the palaces, and the remaining streets are poor and narrow. No buildings have special claims to architectural importance in the city, the most striking being the old palace, a lofty and imposing structure towering above all other buildings; but many houses are adorned with fine wood-carving. Outside the city proper, on the western side of the railway, lie the cotton-mill, the new town hall, called the King Edward Hall, and the State officers' club; while to the east a new quarter known as Tukoganj is being opened out, containing the official residences of State officers and other houses. The remaining buildings of importance are the new palace constructed by Mahārājā Sivajī Rao Holkar, the Tukojī Rao Hospital, State offices, guesthouse, English school, jail, barracks for the Imperial Service and State troops, and cenotaphs of deceased chiefs. The Holkar College stands upon the Agra-Bombay road, about 2 miles from the city.

Municipal self-government was instituted in 1870, and the committee consists of seventeen members, four of whom are State officials. The conservancy, lighting, roads, and general administration of the city are in its hands. Funds are obtained from octroi and other taxes, the annual income amounting to about Rs. 70,000.

After the Treaty of Mandasor in 1818, a piece of land with an area of 1·35 square miles was assigned by the Indore Darbār for the use of the Resident at the court of Holkar. In 1854, on the appointment of an Agent to the Governor-General for Central India, this became his head-quarters, and is still commonly known to Europeans as the Residency or Camp. In 1857, during the Mutiny, the officiating Agent to the Governor-General, Colonel Durand, was obliged to retire

to Sehore. The Residency house, which was built between 1820 and 1827, is a substantial structure of basalt, standing in fine open park-like surroundings near the Khān, a tributary of the Siprā, which has been dammed so as to form a lake. Besides the Residency, the Camp contains official houses for the Resident at Indore (*see* INDORE RESIDENCY), two Assistants to the Agent to the Governor-General, the Residency Surgeon, and other officers. Other buildings of importance are the head-quarters offices, the Daly College for sons of Central India chiefs, a church and a Roman Catholic chapel, a large civil hospital, and a Central jail. The station is garrisoned by one company of British infantry and the Mālwā Bhīl Corps, besides the Agent's escort of a detachment of Central India Horse. The population in 1901 was 11,118. The head-quarters of the Canadian Presbyterian Mission, including a large college, are situated in the station. The Residency bazar, originally a small settlement, has expanded into a large trade centre, and is under the immediate administrative control of an Assistant to the Agent to the Governor-General. A considerable income is derived from cesses and taxes, yielding Rs. 50,000 per annum, which is expended on sanitation, education, medical relief, and the policing of the station. The head-quarters of the Mālwā Opium Agency are also situated here, including a set of Government scales at which duty is paid on opium for export. Administrative and jurisdictional powers within Residency limits are vested in the Agent to the Governor-General (*see* CENTRAL INDIA).

Indūr District[1].—District in the Bidar Division of Hyderābād State, lying between the Districts of Sirpur Tāndūr on the north, Elgandal on the east, Medak on the south, and Bidar and Nānder on the west, and between 18° 5′ and 19° 30′ N. and 77° 40′ and 79° 0′ E. It has an area of 4,822 square miles, including *jāgīr* and *paigāh* lands, the area of the *khālsa* lands being 3,574 square miles.

Physical aspects.

A range of hills runs through the north between Nānder and Elgandal. There are also minor ranges in the west and east. The largest river is the Godāvari, which enters from the adjoining District of Nānder on the west, and, after traversing the northern portion for about 70 miles, passes into Elgandal District. The Mānjra, the chief tributary of the Godāvari, crosses the District from the south-west and joins the Godāvari near Kandkurti in the Bodhan *tāluk*, after a course of 62 miles. The Pengangā forms the boundary between the Narsāpur *tāluk* in the north and the Pusad *tāluk* of Berār. Smaller rivers are the Siddha in the Narsāpur *tāluk*, the Phulāng in the Indūr and Armūr *tāluks*, and the Sūran, which passes through Narsāpur and Nirmal. All these

[1] This District ceased to exist in 1905. *See* section on Population and the article on NIZĀMABĀD DISTRICT, which has taken its place.

are tributaries of the Godāvari. The Yedlakatta Vāgū is a small perennial stream in Kāmāreddipet.

The rocks belong to the Archaean and the Deccan trap formations, the former occupying the larger area. The Deccan trap occurs principally along the northern frontier.

The chief trees are teak, black-wood, ebony, *nallāmaddi* (*Terminalia tomentosa*), *eppa* (*Hardwickia binata*), *bijāsāl* (*Pterocarpus Marsupium*), and *tarvar* (*Cassia auriculata*).

All the *tāluks* except Mudhol are largely overgrown with jungle, giving cover to tigers, bears, leopards, cheetahs, wild dogs, hyenas, wild hog, *sāmbar*, spotted deer, and *nīlgai*.

From February to the end of May the climate is dry and healthy, but during the monsoons and the cold season it is damp and malarious, giving rise to fever and ague. The temperature ranges between 40° in December and 110° in May. In the Nirmal *tāluk* the water is bad, and dropsy and malarial fevers are common. The annual rainfall for the twenty years ending 1901 averaged 42 inches.

History.

The District was conquered by Alā-ud-dīn Khiljī in 1311. Later it formed part of the Bahmani, and subsequently of the Kutb Shāhi kingdoms; and on the fall of the latter was annexed by Aurangzeb to the Mughal empire, from which it was separated on the foundation of the Hyderābād State, early in the eighteenth century.

Chief among the archaeological and historical remains of the District may be mentioned the fort of Nirmal. The surrounding country is literally dotted with hills, the majority of which still bear signs of former fortifications. The main defences which surround Nirmal are of European design and construction, having been built by French officers in the Nizām's service. South-west of the town of Nizāmābād are the remains of a great fortified temple known as the fort of Indūr, which has now been converted into a Central jail. There are two old and richly carved temples at the village of Yellāreddipet, with an abundance of figure sculpture adorning both. Ten miles south of Nizāmābād, at the small village of Gaursamudram, are the tombs of three Armenians, dating from the latter part of the seventeenth century.

Population.

The number of towns and villages in the District is 1,159. The population at each Census during the last twenty years was: (1881) 577,264, (1891) 639,598, and (1901) 634,588. The famine of 1899–1900 accounts for the decline of population in the last decade. The chief towns are NIZĀMĀBAD, ARMŪR, NIRMAL, BODHAN, MUDHOL, KONDALWĀDI, and BĀLKONDA, the last two being in a *paigāh* and a *jāgīr* respectively. INDŪR is the District head-quarters. More than 91 per cent. of the population are Hindus, and nearly all the rest Musalmāns. About 78 per cent. of the

population speak Telugu. The following table gives the chief statistics of population in 1901 :—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Indūr	415	1	69	52,778	127	+ 1.0	Not available.
Nirmal	500	1	100	41,351	83	− 16.4	
Armūr	479	1	72	50,717	106	− 2.9	
Bīmgal	311	..	37	29,508	95	+ 2.2	
Kāmāreddipet	338	..	71	43,375	128	+ 2.4	
Yellāreddipet	172	..	70	27,574	160	− 3.6	
Bānswāda	319	...	65	37,972	119	+ 2.8	
Bodhan	237	1	42	31,668	133	+ 4.1	
Mudhol	282	1	90	42,640	151	− 11.1	
Narsāpur	521	..	133	48,489	93	− 0.8	
Jāgīrs, &c.	1,248	2	403	228,516	175	− 2.2	
District total	4,822	7	1,152	634,588	131	− 1.3	13,519

In 1905 the *tāluks* of Nirmal and Narsāpur were transferred to the new District of Adilābād, and Mudhol and part of Bānswāda to Nānder. The rest of Bānswāda was divided between Bodhan and Yellāreddipet, while Bīmgal was merged in Armūr. Other changes were made in Yellāreddipet and Kāmāreddipet, and the District in its new shape is known as NIZĀMĀBĀD.

The purely agricultural castes number 175,600, or about 28 per cent. of the population, the most important being Kāpus (83,000), Munnūrs (40,000), and Kolīs (30,000). Next come the Dhangars or shepherds (36,000), and the Baniās or trading castes, consisting mainly of Komatis (13,800) and Vānīs (17,000). There are 11,500 Brāhmans. The weaver castes comprise Sālās (12,000), Julāhās (13,600), and Koshtīs (5,100). The Bestās or *pālki*-bearers number 17,000. There are also 12,000 Lammānis or grain-carriers. Among the low castes are Mālas or Dhers (64,000), and Māngs or Chamārs who are leather-workers (32,000). These last also work as field-labourers. The Kalāls or toddy-drawers number about 12,000. More than 51 per cent. of the population are dependent on the land.

A Methodist Mission was started at Kanteshwar close to Nizāmābād in 1899, which manages two schools and a carpenter's workshop. Native Christians numbered 32 in 1901, of whom 2 were Methodists.

Agriculture.

In the *tāluks* of Narsāpur and Mudhol *regar* or black cotton soil predominates, while *masab*, *kharab*, and *chalka*, which are mostly sandy, gravelly, and light-coloured soils, are found in the rest of the District. 'Wet' cultivation is not practised in these two *tāluks*, while the existence of numerous tanks is

a marked feature in the others. The soils at the foot of the hills and in valleys are generally very fertile.

The tenure of lands is entirely *ryotwāri*. In 1901, out of 3,574 square miles of *khālsa* land, 1,042 were cultivated, 497 were occupied by fallows and cultivable waste, 1,388 by forests, and 647 were not available for cultivation. The staple food-crop is *jowār*, grown on 58 per cent. of the net area cropped. Next in importance is rice, covering 191 square miles. The other food-grains, such as *kodro*, *lachhna*, and maize, occupy 128 square miles; and cotton 34.

The ordinary breeds of cattle, ponies, sheep, and goats are met with throughout the District. The cattle reared in the hilly portions are more hardy than those of the plains, but both are small. The *tāluk* of Nirmal was once noted for its fine cattle, supposed to have been introduced from Sirpur Tāndūr. Two stallions are kept for improving the breed of horses, one at Nizāmābād and the other at Kāmāreddipet.

In 1901, 119 square miles were irrigated. The principal irrigation channels take off from the Phulāng and Sūran rivers and the Yedlakatta stream, and supply some of the chief tanks. Other canals and channels are supplied from irrigation dams; and there are 635 large tanks, 837 *kuntas* or smaller tanks, and 3,112 wells in good working order.

Indūr has large tracts of forests. Every *tāluk*, except Mudhol, contains some forest lands, and the growth in Nirmal and Bīmgal is dense. Teak, black-wood (*Dalbergia latifolia*), ebony (*Diospyros melanoxylon*), *nallāmaddi* (*Terminalia tomentosa*), *eppa* (*Hardwickia binata*), and *bijāsāl* (*Pterocarpus Marsupium*) grow well in these two *tāluks*, producing timber of good scantling. The timber trees elsewhere are inferior, but supply railway sleepers and poles. Fuel is abundant in all the *tāluks* except Mudhol, where the ryots plant *babūl* and *nīm* trees. 'Reserved' forests cover 795 square miles, and unprotected forests 593.

The District possesses good basaltic and granitic building stone. The ironstone found in Bīmgal and Armūr is excellent, and sword-blades made from the Konasamudram (Armūr *tāluk*) steel were once famous for their strength and peculiar damascening.

Trade and communications.

Coarse cotton cloth of every description is made throughout the District. In Armūr, the Khatris weave various kinds of silk *sārīs* and silk cloth, more than half of which, valued at Rs. 35,000 annually, is exported. In Bīmgal and Nirmal, palanquins, trays, chairs and tables, toys and native playing-cards, leathern shields, and panels for screens are neatly painted with colours of local manufacture and with embossed patterns. Brass vessels, glass bangles, stone tumblers and cups are exported from these *tāluks*, and also steel knives and other cutting instruments of

good finish. In the town of Indūr, prayer-cloths and *purdas* are printed; and scented hair oils and *agar battis*[1] of a good quality are prepared. A rice-mill has lately been erected, which is capable of husking 11 tons of paddy daily, and employs 33 hands. The Mudhol *tāluk* contains a ginning factory and a cotton-press driven by steam power. The former employs 76 and the latter 46 hands. Leather is tanned in the ordinary way by Chamārs for the manufacture of water-buckets.

The principal exports consist of rice, gram, and other food-grains, cotton, oilseeds, oil, chillies, jaggery, tamarinds, cattle, bones and horns, tobacco, leather, *tarvar* bark for tanning, coarse cloth, silk *sārīs*, and brass vessels. The chief imports are cotton, silk and woollen cloth, salt, salted fish, opium, condiments, gold, silver, copper, brass, iron, kerosene oil, refined sugar, and raw silk. Trade is mainly with the adjoining Districts; but cotton, leather, *tarvar* bark, bones, horns, and oilseeds are sent to Bombay and Madras. Nizāmābād is the chief centre of general trade, especially for those parts not served by the railway. Weekly bazars are held at the several *tāluk* head-quarters, from which merchandise is distributed to distant parts of the District. The Komatis are the chief trading caste.

The Hyderābād-Godāvari Valley Railway traverses the District from the north-west to the south for 80 miles, with ten railway stations within its limits.

About 142 miles of road are metalled with *morum* or gravel. The old Nāgpur trunk road from Hyderābād to Nāgpur in the Central Provinces crosses the District for 84 miles, and is maintained by the Public Works department. Another road, 39 miles long, runs from Nizāmābād to Bānswāda. There are four railway feeder-roads with an aggregate length of 19 miles, and ordinary country roads connect Nizāmābād with the head-quarters of the *tāluks*. The District is on the whole well supplied with communications.

Famine.

Owing to its large forest area and numerous wells and tanks, Indūr has been fairly free from famine. In 1819, while there was famine in Gulbarga, Lingsugūr, Bhīr, and Parbhani, only slight distress was experienced here. In the famine of 1833, though the people were not much affected, large numbers of cattle died for want of fodder. The great famine of 1899–1900, which was most seriously felt in the Aurangābād Division and Osmānābād, affected this District also, the rainfall in 1899 being only 16 inches, or less than two-fifths of the average. But as 1898 had been a good year, the ryots did not suffer acutely, though the loss to the State by remissions was great.

[1] Sticks composed of fragrant herbs, frankincense, and musk, which are burnt for their fragrance at religious ceremonials and sacrifices.

The District is divided into three subdivisions: one, consisting of the *tāluks* of Bodhan and Yellāreddipet, under a Third Tālukdār; the second, comprising the *tāluks* of Kāmāreddipet and Armūr, under a Second Tālukdār; and the third, consisting of the Indūr *tāluk* only, under a Third Tālukdār. Each *tāluk* is under a *tahsīldār*. The First Tālukdār is the head of the District, having a general supervision over the work of all his subordinates.

Administration.

The District civil court is presided over by a Civil Judge styled the *Nāzim-i-Dīwāni*, and the subordinate civil courts are those of the *tahsīldārs*. The First Tālukdār is the chief magistrate, and the District Civil Judge is also a joint-magistrate, exercising powers during the absence of the First Tālukdār from head-quarters. The Second Tālukdār exercises first-class magisterial powers, and the Third Tālukdārs second-class powers, while the *tahsīldārs* have third-class powers. There is little serious crime in ordinary times, but bad seasons lead to cattle-thefts and dacoities.

Little is known of the revenue history of the District. Formerly villages were made over to revenue farmers, who were allowed 10 per cent. for collections. They levied cash payments on 'dry' cultivation and sugar-cane, but for 'wet' crops they obtained a share in kind. In 1866, when the whole State was divided into Districts and *tāluks*, revenue in kind was commuted to cash payments. A survey was completed in 1898, but the periods of settlement vary in the different *tāluks*. Mudhol, Bodhan, Yellāreddipet, Kāmāreddipet, and Bānswāda were settled for fifteen years, Nirmal and Narsāpur for ten, and Indūr, Armūr, and Bīmgal for seven years. The system followed resembles that of the Mysore settlement. The settlement caused an increase in the revenue of 5 per cent., while the survey showed that the area in holdings was greater than that recorded in the old accounts by 216 square miles. The average assessment on 'dry' land is Rs. 1-4 (maximum Rs. 2-0, minimum one anna), and on 'wet' land including gardens, Rs. 14 (maximum Rs. 24, minimum Rs. 3).

The land revenue and the total revenue of the District in recent years are shown below, in thousands of rupees:—

	1881.	1891.	1901.	1903.
Land revenue . .	14,60	19,22	18,53	16,01
Total revenue . .	23,68	28,20	24,31	28,89

Since 1899 a cess of one anna in the rupee has been levied, and local boards established. The First Tālukdār is the president of the District board, and the *tahsīldārs* are chairmen of the subordinate *tāluk* boards. At Nizāmābād there is a municipality, and each of the

tāluk head-quarters has a small conservancy establishment; the District and *tāluk* boards manage the municipalities as well. The local board expenditure in 1901 was Rs. 71,725. The District Engineer has charge of all the roads and buildings constructed or maintained by the Public Works department. The Irrigation Engineer superintends the repair and construction of irrigation works.

The First Tālukdār is the head of the police administration, with the Superintendent (*Mohtamim*) as his executive deputy. Under him are 10 inspectors, 115 subordinate officers, 684 constables, and 25 mounted police, distributed among 45 *thānas* and 43 outposts, except the mounted police who are at head-quarters.

The fort of Indūr has been converted into a Central jail, and receives convicts sentenced to more than six months' imprisonment from the Districts of Medak, Mahbūbnagar, Bīdar, and Sirpur Tāndūr. In 1901 there were 496 convicts in the Central jail. Female convicts are sent to the Warangal Central jail, as there is no separate accommodation here. *Shatranjīs*, cotton-tweeds, counterpanes, towels, *khāki* cloth, &c., are manufactured in large quantities. Tailors', carpenters', and blacksmiths' workshops are also at work, besides a printing press. All the cloth required for the convicts is manufactured in the jail, and surplus products are sold.

The District occupies a medium place as regards the literacy of its population, of whom 2·1 per cent. (4·1 males and 0·2 females) were able to read and write in 1901. The total number of pupils under instruction in 1881, 1891, 1901, and 1903 was 226, 1,496, 1,994, and 2,476 respectively. In 1903 there were 44 primary schools and one middle school, with 103 girls under instruction. The total expenditure on education in 1901 amounted to Rs. 12,278, of which Rs. 10,864 was met by the State and the remainder by local boards. The sum derived from fees was Rs. 780.

The District contained six dispensaries in 1901, with accommodation for 25 in-patients. The cases treated in that year numbered 30,794, of whom 142 were in-patients, and 612 operations were performed. The total expenditure amounted to Rs. 15,086, of which Rs. 13,694 was paid by the State and the balance was met from Local funds. The number of persons successfully vaccinated in 1901 was 1,110, or 1·75 per 1,000 of the population.

Indus (Sanskrit, *Sindhu*; Greek, *Sinthos*; Latin, *Sindus*).—The great river of North-Western India, which rises in Tibet, and then flows through Kashmīr, the North-west Frontier Province, and the Punjab, and after a final course through Sind falls into the Arabian Sea in 23° 58′ N. and 67° 30′ E. The drainage basin of the Indus is estimated at 372,700 square miles, and its total length at a little over 1,800 miles. The towns of importance on or near its banks in British

territory are, beginning from the south: Karāchi, Kotri, Hyderābād, Sehwān, Sukkur, Rohri, Mithankot, Dera Ghāzi Khān, Dera Ismail Khān, Miānwāli, Kālābāgh, Khushālgarh, and Attock.

The first section of the course of the Indus lies outside British territory, and must be dealt with briefly here. The river rises, as above stated, in Tibet (32° N. and 81° E.) behind the great mountain wall of the Himālayas which forms the northern boundary of India, and is said to spring from the north side of the sacred Kailās mountain (22,000 feet), the Elysium of ancient Sanskrit literature. Issuing from the ring of lofty mountains about Lake Mānasarowar, whence also the Sutlej, the Brahmaputra, and the Kauriālā spring, it flows north-west for about 160 miles under the name of Singh-ka-bāb, until it receives the Ghar river on its south-western bank. A short distance below the junction of the Ghar, the Indus, which is supposed to have an elevation of 17,000 feet at its source, enters the south-eastern corner of Kashmīr at an elevation of 13,800 feet, flowing slowly over a long flat of alluvium. Following a steady north-by-west course it skirts Leh at a height of 10,500 feet and drops to 8,000 feet in Baltistān, just before it receives the waters of the Shyok river. At Leh it is joined by the Zāskār river, and is crossed by the great trade route into Central Asia via the Karakoram Pass. Early travellers like Dr. Thomson and Mr. Blane have described this portion of the Indus. The former found numerous hot springs, some of them with a temperature of 174° and exhaling a sulphurous gas. Still flowing north, but more westerly, through Kashmīr territory, it passes near Skārdu in Baltistān, and reaches the Haramosh mountain (24,300 feet) in about 34° 50′ N. and 74° 30′ E. Here it takes a turn southwards at an acute angle, and passing beneath the Hattu Pīr, at an elevation of 4,000 feet, enters Kohistān in the Dir, Swāt, and Chitrāl Agency near Gur. The steepness of its fall varies, now becoming greater, now less. This inequality of slope has been connected with the changes that occurred in the glacial period from the damming of the river by huge glaciers and the formation of great thicknesses of lacustrine deposit. The Indus has been the cause of serious and disastrous floods; the rapid stream dashes down gorges and wild mountain valleys, and in its lower and more level course it is swept by terrific blasts. Even in summer, when it is said to dwindle down to a fordable depth during the night, it may in the course of the day swell into an impassable torrent from the melting of the snows on the adjoining heights. Opposite Skārdu in Baltistān it is, even in the depth of winter, a grand stream, often more than 500 feet wide and 9 or 10 feet in depth. After leaving Gur, it flows for about 120 miles south-west through the wilds of Kohistān, until it enters the North-West Frontier Province (35° 25′ N. and 73° 51′ E.) near Darband, at the western base of the Mahāban mountain. The only

point to which special allusion can be made in the long section of its course beyond British territory is the wonderful gorge by which the river bursts through the western ranges of the Himālayas. This gorge is near Skārdu, and is said to be 14,000 feet in sheer descent.

The Indus, on entering the Hazāra District of the North-West Frontier Province, 812 miles from its source, is about 100 yards wide in August, navigable by rafts, but of no great depth, and studded with sandbanks and islands. It is fordable in many places during the cold season; but floods or freshes are sudden, and Ranjīt Singh is said to have lost a force, variously stated at from 1,200 to 7,000 horsemen, in crossing the river. Even the large and solid ferry-boats which ply upon it are sometimes swept away. Almost opposite Attock it receives the KĀBUL RIVER, which brings down the waters of Afghānistān. The two rivers have about an equal volume; both are very swift, and broken up with rocks. Their junction during floods is the scene of a wild confusion of waters. The Kābul river is navigable for about 40 miles above the confluence, but a rapid just above it renders the Indus impracticable. Attock, the limit of the upward navigation of the Indus, forms the first important point on the river within British territory. By this time it has flowed upwards of 860 miles, or nearly one-half of its total length, its further course to the sea being about 940 miles. It has fallen from an elevation of 17,000 feet at its source in Tibet to about 2,000 feet, the height of Attock being 2,079 feet. In the hot season, opposite the fort, its velocity is 13 miles an hour; and in the cold season, 5 to 7 miles. The rise of ordinary floods is from 5 to 7 feet in twenty-four hours, and the maximum is 50 feet above cold-season level. Its width varies greatly with the season, at one time being more than 250 yards, at another less than 100. The Indus is crossed at Attock by the railway bridge opened in 1883, by a bridge of boats, and by a ferry. The main trunk road to Peshāwar also crosses the river by a subway on the railway bridge.

After leaving Attock, the Indus flows almost due south, forming the western boundary of the Punjab, parallel to the Sulaimān Hills. The great north road from Bannu to Sind runs for several hundred miles parallel with its western bank; and from Attock to Mahmūd Kot the Māri-Attock, Māri, and Sind-Sāgar sections of the North-Western Railway run along its eastern bank. Twelve miles below Attock the Indus receives the waters of the Haroh, a rapid stream which, rising in the Murree hills as the Dhānd, meets the Karrāl coming down from the Mochpuri peak, and rushes through steep banks for a total length of 90 miles. At Makhad, the Sohān brings in all the drainage of Rāwalpindi and Jhelum Districts that is not taken by the Jhelum river. The Indus forms the eastern border of the two frontier Districts of Dera Ismail Khān in the North-West Frontier Province and Dera

Ghāzi Khān in the Punjab with the Sind-Sāgar Doāb on its eastern bank, and only a narrow strip of British territory between it and the hill tribes of the Sulaimān ranges on the west. Just above Mithankot, in the south of Dera Ghāzi Khān District, it receives the accumulated waters of the Punjab. Between the Indus and the Jumna flow the five great streams from which the Punjab (Panj-āb, literally 'The five waters') takes its name. These are the JHELUM, the CHENĀB, the RĀVI, the BEĀS, and the SUTLEJ. After various junctions these unite to form the PANJNAD river, literally 'The five streams,' which marks for a short space the boundary between British territory and the Bahāwalpur State, and unites with the Indus near Mithankot, about 490 miles from the sea. In the cold season the breadth of the Indus above the confluence is about 600 yards, its velocity 5 miles an hour, its depth from 12 to 15 feet, and its estimated discharge 10,000 to 25,000 cubic feet per second. During flood-times the breadth sometimes increases to 5 miles, and the discharge to 1,000,000 cubic feet per second. The dimensions of the Panjnad above the point of junction are somewhat less than those of the Indus during the cold season, but during the monsoon floods they are almost as large. The whole course of the Indus through the Punjab is broken by islands and sandbanks; but beautiful scenery is afforded along its banks, which abound with the date, acacia, pomegranate, and other trees.

Mithankot has an elevation of only 258 feet above the level of the sea. From Mithankot the Indus forms the boundary between the Punjab and the Bahāwalpur State, until, near Kashmor, it enters Sind in 28° 26′ N. and 69° 47′ E. From Bukkur (in Sind) to the sea the river is known familiarly among the people of the province as the Daryā ('the river'). Pliny writes of *Indus incolis Sindus appellatus*. It first touches Sind in the Upper Sind Frontier District, separating it from the Bahāwalpur State and Sukkur District. Formerly in years of high inundation its floods reached Jacobābād, finding their way thence into the Manchhar Lake. To prevent this, the Kashmor embankment, which is the largest in Sind, was erected. Leaving Kashmor the river crosses Sukkur, divides Lārkāna and Karāchi from the Khairpur State and Hyderābād District, finally emptying itself by many mouths into the Arabian Sea near Karāchi after a south-western course of 450 miles through Sind. It ranges in width from 480 to 1,600 yards, the average during the low season being 680 yards. During the floods it is in places more than a mile wide. Its depth varies from 4 to 24 feet. The water derived from the snows of the Himālayas, is of a dirty brown colour, and slightly charged with saline ingredients, carbonate of soda, and nitrate of potash. Its velocity in the freshes averages 8 miles per hour; at ordinary times, 4 miles. The discharge per second varies between a minimum of 19,000 and

a maximum of 820,000 cubic feet. On an average the temperature of the water is 10° lower than that of the air. Near the station of Sukkur and again at Kotri the river is spanned by a fine railway bridge. The Sukkur bridge was opened in 1889, and resembles the Forth Bridge in having a central girder with a span of 200 feet, supported at the ends of two cantilever arms, each 310 feet long. The Indus begins to rise in March, attains its maximum depth and width in August, and subsides in September. The maximum rise registered at Kotri, near Hyderābād, was 22 feet 7 inches in 1894. There are many other gauges on the river.

The delta of the Indus covers an area of about 3,000 square miles, and extends along the coast-line for 125 miles. It is almost a perfect level, and nearly destitute of timber, the tamarisk and mangrove alone supplying fuel. In these respects the delta is similar to that of the Nile, but dissimilar to that of the Ganges. The marshy portions contain good pasturage, and rice grows luxuriantly wherever cultivation is possible; but the soil generally is not fertile, being a mixture of sand and clay. In the Shāhbandar *tāluka* are immense deposits of salt. The climate of the delta is cool and bracing in the winter months, hot in the summer, and during the floods most unhealthy.

The Indus formerly flowed down the middle of the THAL. Basira, a village in the centre of the Muzaffargarh Thal, was called Bet Basira; and at Shāhgarh, near the southern end of the Thal, a long lake still exists which once formed the Indus bed. In 1800 the river at the apex of the delta divided into two main streams, known as the Baghiār and Sītā; but in 1837 it had entirely deserted the former channel. The Khedewāri passage also, which before 1819 was the highway of water traffic to Shāhbandar, was in that year closed by an earthquake. In 1837 the Kakaiwāri, which had then increased from a shallow creek to a river with an average width at low water of 770 yards, was recognized as the highway; but before 1867 this also was completely blocked. In 1897 the river suddenly cut 3 miles inland, north of Rohri, destroying the cultivated fields and the Mando-Dahiro road. Tando Nijābat on the right bank and Mithani on the left have been swept away four times and rebuilt farther off. For the present the Hajāmro, which before 1845 was navigable only by the smallest boats, is the main estuary of the Indus. The shape of the Hajāmro is that of a funnel, with the mouth to the sea; on the east side of the entrance is a beacon 95 feet high, visible for 2 miles; and two well-manned pilot boats lie inside the bar to point out the difficulties of navigation.

The following facts illustrate further the shifting nature of the Indus. In 1845 Ghorābāri, then the chief commercial town of the delta, was on the river bank; but in 1848 the river deserted its bed.

The town of Keti was built on the new bank. The new bank was overflowed a few years later, and a second Keti had to be built farther off. At present one of the chief obstructions to navigation is a series of rocks between Tatta and Bhimān-jo-pura, which in 1846 were 8 miles inland. In 1863 a thousand acres of the Dhāreja forest were swept away. The rapidity and extent of the destructive action in constant progress in the delta may be estimated from the fact that travellers have counted by the reports as many as thirteen bank slips in a minute. In some places the elephant-grass (*Typha elephantina*) does good service by driving its roots very deeply (often 9 feet) into the ground, and thereby holding it together.

The entire course of the Indus in British territory, from Attock to the sea, lies within the zone of deficient rainfall, the annual average being nowhere higher than 10 inches. Cultivation, therefore, is absolutely dependent upon artificial irrigation, almost to as great an extent as in the typical example of Egypt. But the Indus is a less manageable river than the Nile. Its main channel is constantly shifting; at only three places—Sukkur, Jerruck, and Kotri—are the river banks permanent; and during the season of flood the melted snows of the Himālayas come down in an impetuous torrent which no embankment can restrain. From time immemorial this annual inundation, which is to Sind what the monsoons are to other parts of India, has been utilized as far as possible by an industrious peasantry, who lead the water over their fields by countless artificial channels. Many such channels, constructed in the days of native rule, extend 30 and even 40 miles from the river bank. Recently the systematic schemes of British engineers have added numerous perennial canals, such as the JĀMRAO, constructed on scientific principles. The first recorded inundation of the Indus took place in 1833; another occurred in 1841 on a much larger scale. This flood was said to have been caused by the bursting of a glacier which formed over an accumulation of water in the Nubra Tso, into which there was a regular and steady flow from the surrounding hills. Eventually, the glacier was burst asunder by the pressure, and the released floods poured down the Shyok valley, carrying everything before them. There was another great flood in August, 1858, when the river rose 90 feet in a few hours, and the greater part of the private property in Naushahra cantonment was destroyed. Lower down in its course considerable damage has been caused in DERA GHĀZI KHĀN DISTRICT, where protective works were undertaken. Of recent years the Indus has been embanked from above Kashmor to the mouth of the Begāri Canal, a distance of more than 50 miles. The embankment has proved a great protection to the North-Western Railway, which here runs at right angles to the river.

A full account of irrigation in SIND will be found in the article on that province. It must suffice in this place to give a list of the principal works, following the Indus downwards from the Punjab. The country has recently been surveyed with a view to a canal being led from Kālābāgh down the Sind-Sāgar Doāb, but the difficulties in the way are at present considerable. The waters of the river are first utilized on a large scale in the INDUS INUNDATION CANALS, which water a narrow strip between the Indus and the Sulaimān mountains. The canals in this tract have an aggregate length of 690 miles, of which 108 have been constructed under British rule. In Muzaffargarh District the MUZAFFARGARH CANALS take off from the Indus and Chenāb, and in the Native State of Bahāwalpur the Chenāb and Sutlej, as well as the Indus, contribute to render cultivation possible. In Sind the following are the chief canal systems: on the right or west bank, the Desert, Unar Wah, Begāri, Sukkur, Ghar, and Western Nāra; on the left or east, the Nāra Supply Channel, Mahi Wah, JĀMRAO, a branch of the Eastern Nāra, and the EASTERN NĀRA with many distributaries, the principal being the Mithrao and Pinjāri. Other important canals are the Fuleli with two mouths, the Nasrat, and the Dād. The total area irrigated by canals from the Indus in 1903-4 was: in the Punjab, 714 square miles; in Sind, 4,925 square miles.

As a channel of navigation, the Indus has disappointed the expectations that were at one time formed. Before British arms had conquered Sind and the Punjab, it was hoped that the fabled wealth of Central Asia might be brought by this course down to the sea. But, even so far as local traffic is concerned, experience has proved in this case, as with most other Indian rivers, that the cheapness of water communication cannot compete with the superior speed and certainty of railways. Since the opening of the Indus Valley State Railway (now included in the North-Western system) in the autumn of 1878, navigation on the Indus, whether by steamer or by native boat, has greatly fallen off. The general character of the Indus trade may be inferred from the statistics of imports and exports into the PUNJAB by 'rail and river,' which refer only to traffic borne in part or wholly on the Indus. The original 'Indus flotilla,' which was broken up in 1862, placed its first steamer on the river in 1835. In 1859 a company established another Indus flotilla in connexion with the Sind Railway, with which it was formally amalgamated in 1870, the joint head-quarters being removed to Lahore. The railway flotilla was abolished in 1882-3. These were not the only navigation experiments on the Indus. In 1856 the Oriental Inland Steam Company obtained a yearly subsidy of Rs. 50,000 from Government; but, as the river current proved too powerful for its steamers, the company stopped the traffic, and eventually collapsed.

For the conservancy of the lower part of the river, Act I of 1863 (Bombay) provides for the registration of vessels, and the levy of pilotage fees by an officer called the Conservator and Registrar of the Indus, the sum realized being expended on the improvement of navigation[1]. A special export board, known as the Indus Commission, was constituted in 1901.

The boats of the Indus are the *dundo* and *zaurak*, both cargo-boats, the *kauntal*, or ferry-boats, and the *dundi*, or fishing-boats. The cargo-boats are sometimes of 60 tons burden, and when laden draw 4 feet of water. The state barges or *jhamptis* of the Sind Mīrs were built of teak, four-masted, and sometimes required crews of thirty men.

Fish abound. At the mouths, the salt-water varieties include the *Clupea neowhii*, a species of herring largely consumed along the coast and in the delta. The chief of the fresh-water varieties are the *palla*, placed by Dr. Day under the *Clupeidae*, and nearly allied to, if not identical with, the *hilsa* of the Ganges; and the *dambhro*. The local consumption and also the export of dried *palla* are very large. Otters, turtles, porpoises, water-snakes, and crocodiles, of both the blunt-nosed and sharp-nosed species, are numerous.

[*Notes on the Indus River* (Karāchi, 1901).]

Indus Inundation Canals.—An Imperial system of inundation canals in the Punjab, taking off from the west bank of the Indus, and irrigating part of Dera Ghāzi Khān District. They are fourteen in number and cover a river frontage of 175 miles, protecting a low-lying narrow strip of country from 6 to 16 miles wide, known as the Sind. These were mostly constructed by the Mirāni chiefs and other native rulers, and were greatly improved by Sāwan Mal, governor under Ranjīt Singh. Five, however, were constructed by Baloch chiefs in 1862-3 for the use of their tribal lands, but proving a financial failure were bought up by Government. The gross area commanded is 1,374 square miles, of which 661 are cultivable. The greatest area of crops matured is 348 square miles, and the average about 300 square miles. The normal period of flow is from the beginning of May to the end of September; consequently, while the autumn crop is matured entirely by canal water, the supply in the spring harvest is sufficient only for ploughing and sowing, after which wells are used. The average discharge of the whole series is 2,400 cubic feet per second. There are 680 miles of main canals and branches, of which 108 have been constructed under British rule, 75 miles of distributaries, and 7 of drainage cuts and escapes. As the irrigated tract is below the flood-level of the Indus, a system of embankments 75 miles long has been

[1] The Indus Conservancy department and fees levied for its upkeep were abolished in March, 1906.

built, and also works for training the river and protecting the irrigation works. The capital sum expended from 1854 to the end of March, 1904, is 8·6 lakhs. Until 1897 there was practically no net revenue; in that year, by the revised settlement of Dera Ghāzi Khān District, the indirect revenue was substantially increased and a low occupier's rate imposed. The gross revenue for 1903-4 was 4·1 lakhs and the net revenue 1 lakh, or 11·88 per cent. on the capital expenditure. A considerable income is derived from Government lands on the Dhundi canal.

Injaram.—Village in the Cocanāda *tāluk* of Godāvari District, Madras, situated in 16° 44′ N. and 82° 11′ E., 5 miles south of Coringa on the Injaram Canal. Population (1901), 2,042. A factory was established here by the East India Company as early as 1708, and the place became famous for its fine cloths. It was captured by the French in 1757, but recovered in 1759, and remained a mercantile station down to 1829. In 1839 it suffered severely from a cyclone.

Insein Subdivision.—Subdivision of Hanthawaddy District, Lower Burma, comprising the TAIKKYI and INSEIN townships.

Insein Township.—Township in Hanthawaddy District, Lower Burma, lying between 16° 47′ and 17° 11′ N. and 95° 49′ and 96° 19′ E., with an area of 482 square miles. The population was 86,247 in 1891 and 103,984 in 1901. The township is level and fertile, and has a density of 216 persons per square mile. It contains one town, INSEIN (population, 5,350), the head-quarters; and 478 villages. The area cultivated in 1903-4 was 324 square miles, paying Rs. 6,14,000 land revenue.

Insein Town.—Head-quarters of the subdivision and township of the same name in Hanthawaddy District, Lower Burma, situated in 16° 53′ N. and 96° 8′ E., 10 miles north-west of Rangoon. Population (1901), 5,350. Insein is an important railway centre, containing the principal workshops of the Burma Railways Company. It has the largest jail in the Province, an engineering school, and a reformatory school. There is a frequent local train service to and from Rangoon, and, as a good deal of high land is suitable for building sites, Insein is becoming a popular residential suburb of the capital. The town was constituted a 'notified area' in 1903, and is administered by a committee of five members. The income of the town fund in 1904-5 amounted to Rs. 13,600, and the expenditure to Rs. 7,200.

Inthas.—A tribe scattered over the western and south-western portions of the Southern Shan States, Burma, and found in greatest number near Fort Stedman in the State of Yawnghwe. In dress and appearance the Inthas closely resemble the Shans among whom they live, and to whom they are known as Anghsa. They are mainly distinguishable from their neighbours by their dialect, which is not Shan,

but appears to be an archaic form of Burmese, closely resembling Arakanese or Tavoyan. This resemblance has given rise to the theory that the Inthas originally came from Arakan. It seems, however, more probable that they are the descendants of one of the branches which broke off from the main Burmese stock about the same time that the Arakanese migrated to the western coast from the Irrawaddy. The early chronicles of the Tagaung kings refer to the separation of the Arakanese from the parent stem, and allude to the migration somewhat later of other parties, one of which went east and settled in what are now the Shan States. If the progeny of this party still exist, it is among the Inthas and Taungyos of the Shan States that they will probably be found. The Inthas are Buddhists. In 1901 they numbered 50,478 in the regularly enumerated areas, and it was calculated that there were about 700 in the 'estimated' areas of Karenni. At Fort Stedman they have a custom of building their houses over the water of the adjoining lake, sometimes at a very considerable distance from the shore. This practice has given them their name of Intha ('lake-dweller'). Their habit of rowing standing up and using the crook of their knees as a rowlock is peculiar.

Irinjālakuda.—Town in the Mukundapuram *tāluk* of Cochin State, Madras, situated in 10° 22′ N. and 76° 14′ E. Population (1901), 8,420, of whom 5,240 are Hindus and 2,656 Christians. It is the head-quarters of the *tāluk*, and contains the *tahsīldār's* office, the Munsif's court, a high school, and several palaces. The most important institution in the town is the large and well-endowed temple of Kūdalmānikkam, presided over by a Sūdra Sanyāsi, who by consecration is elevated to the status of a Brāhman. He is designated Thachudaya Kaimal and is nominated by the ruler of Travancore.

Irrawaddy Division.—Division of Lower Burma, occupying the south-west corner of the province, between 15° 40′ and 18° 31′ N. and 94° 11′ and 96° 6′ E. On the north it is bounded by the Prome District of the Pegu Division; on the east by the Tharrawaddy and Hanthawaddy Districts of the same Division; on the south by the Bay of Bengal; and on the west by the Bay of Bengal and the Sandoway District of the Arakan Division. With the exception of the Arakan Yoma running down the western border, the whole Division is an alluvial plain, watered by a maze of rivers and creeks, all taking off from the Irrawaddy. It is divided into five Districts: Henzada in the north, Ma-ubin in the east, Pyapon in the south-east, Myaungmya in the south, and Bassein in the south-west.

The population of the Division was 680,315 in 1872, 989,978 in 1881, 1,300,119 in 1891, and 1,663,669 in 1901. The greater part of this very large increase is due to the steady flow of immigration from

India, and also from the Districts of Upper Burma. The distribution of population in 1901[1] is given in the table below:—

District	Area in square miles.	Population, 1901.	Land revenue, 1903-4, in thousands of rupees.
Bassein . . .	4,127	391,427	13,79
Myaungmya . .	2,663	278,119	11,71
Ma-ubin . . .	1,641	283,122	9,53
Pyapon . . .	2,137	226,443	12,27
Henzada . . .	2,870	484,558	12,40
Total	13,438	1,663,669	59,70

The Division contains 7,185 villages and 16 towns. The head-quarters are at BASSEIN (population, 31,864), which enjoys easy railway communication with Henzada, and river communication with the other District head-quarters. The other chief towns are HENZADA (population, 24,756), and YANDOON in Ma-ubin District (12,779). Bassein is a town of considerable historical importance; but the Division as a whole never formed an independent political unit, and has taken no very prominent part in the events that have gone to mould the destinies of the people of Burma. The greater part of the population are Burmans, of whom there were 1,250,821 in 1901. Karens are well distributed throughout the Division, and in the same year numbered 299,119. The Pwo and Sgaw Karens are most numerous in Bassein and Myaungmya Districts, and in 1901 showed totals of 142,495 and 52,072 respectively. Talaings (34,394 in number) are strongest in Ma-ubin and Pyapon Districts and weakest in Henzada. A certain number of Arakanese, Chins, and Shans are also found. Chinese in 1901 numbered 8,070, and the Indian population consisted of 30,639 Hindus and 18,944 Musalmāns. The number of Christians (54,823) is large, owing to the numerous Karen population.

Irrawaddy River (*Irawadi*).—The great river of Burma, formed by the junction of two streams, the N'maikha and Malikha, which rise in the hills in the extreme north of the Province at about the 28th parallel of latitude, and meet at a point about 30 miles north of the town of Myitkyinā. From the confluence southwards the united stream, henceforth known as the Irrawaddy, divides Burma proper into two sections, east and west, and eventually empties itself, after a course of 900 miles, into the Bay of Bengal, west of Rangoon. The Irrawaddy is by far the best known of the natural features of the Province.

[1] Since the Census of 1901, the two former Districts of Myaungmya (area, 2,970 square miles; population, 303,274) and Thongwa (area, 3,471 square miles; population, 484,410) have been distributed into the three Districts of Myaungmya, Ma-ubin, and Pyapon, as shown in the table.

Nearly all the old capitals were built upon its banks. Its waters skirt more than half the Districts of Burma. Of the ten most populous towns, six—namely, Mandalay, Prome, Bassein, Henzada, Myingyan, and Pakokku—as well as important stations like Bhamo and Thayetmyo, lie on it, while Rangoon is directly connected with it by more than one waterway. From end to end it is navigable at one season of the year or the other for steam traffic.

Starting from the confluence of the N'maikha and Malikha, and going south, the first affluent of importance is the Mogaung stream, which enters it from the west about 15 miles above Sinbo. Two miles above Bhamo, which lies on its left bank, its waters are swelled by those of the TAPING from the east. The Taping rises in Chinese territory; and its source, which has not yet been ascertained with precision, cannot be far distant from that of the SHWELI, the next large tributary of the Irrawaddy, which, traversing the State of Möngmit, empties itself into the main stream 20 miles south of Kathā. From its junction with the Shweli, the Irrawaddy pursues its course southward. North of Mandalay it is joined by the Madaya stream from the east; and south of that city, opposite the old Burmese town of Sagaing, it makes an extensive bend to the west. At the curve the tortuous MYITNGE quits the gorges of the Shan States to join it from the east, and shortly after this it receives the waters of the Mu from the hills of Shwebo and Kathā in the north. Curving southward again near Myingyan, it is joined immediately above Pakokku by its main tributary, the CHINDWIN, a stream almost its equal in volume, which likewise comes from the very north of the Province. South of its junction with the Chindwin the Irrawaddy is fed from the west by various small tributaries, rising in the Arakan Yoma and the Pakokku Chin Hills, of which the most noteworthy are the Yaw, Mon, and Man, and by a few minor streams from the direction of the Pegu Yoma; but after entering Lower Burma, little is added to its volume before it spreads out like a fan in the delta country in the neighbourhood of Henzada.

A journey down the Irrawaddy would amply suffice to show to the traveller Burma in most of its varied guises. Emerging from its northern home in the Kachin Hills the river plunges, about 60 miles below the town of Myitkyinā, through the third defile, or 'the Gates of the Irrawaddy,' a succession of foaming stretches of water hemmed into an almost inconceivably narrow channel, which is impassable during the rains and not without its dangers in the dry season. From the Gates southwards high hills stand on either hand, sending their outlying slopes down to the water's edge. They recede somewhat in the neighbourhood of Bhamo, but between that town and Shwegu they throw a formidable barrier across the river. At this second defile

the current forces its way through an enormous rift in a rugged spur; and the river steamer swings through turbulent water at the foot of high grim crags down a passage so narrow that at each fresh bend the rocky walls ahead have the appearance from a distance of uniting and offering no outlet. South and west of the defile wide *kaing*-grass plains open out, to shut again above Kathā, and thence marshy level and wooded hill slope alternately till somewhat to the north of Mandalay. Here, after the first defile (less imposing than the two northerly ones) has been passed, the high ground retires from the river to give place to the central plain of Burma, over which the Districts of the dry zone extend. For hours together all that can be seen beyond the blinding white banks and low sandy bluffs by the river's edge are rolling stretches of rocky land, covered with sparse undergrowth and backed by yellow sandstone ridges. Hills there are, but they are mostly remote. From Myingyan southwards Popa alone raises its mass above the plain; but it seems to have nothing in common with its environment, and its blue serves only to heighten the dusty glare of the thirsty land it looks down upon. With the approach to Prome, however, the dry belt is passed, vegetation thickens, each hour carries the traveller into areas of heavier rainfall; and by the time the delta is reached and the river spreads out towards the sea, all signs of rising ground have disappeared, and on every side plains of rich paddy-fields and flat stretches of jungle extend away to the horizon. The farther south the river flows, the oftener does it send off branches to meander through the fertile levels; and near the coast the country becomes a maze of turbid tidal creeks, flowing through dreary expanses of mangrove jungle.

As a source of irrigation, the value of the Irrawaddy is enormous. During the monsoon its waters rise and inundate all the low-lying ground in the vicinity of the channel. When they fall again in October and November, vast stretches of rich soil are left on and adjoining the banks, and on the many islands in the bed of the stream, which are suitable for rice, and for what is known as *kaing* cultivation. The river does not, however, supply water to any of the regular irrigation systems of the Province. In the delta the country adjoining its channel is protected from inundation by an elaborate system of embankments.

A considerable portion of the internal trade of the country passes up and down the Irrawaddy. The steamers of the Irrawaddy Flotilla Company run throughout the greater part of its course, bringing down petroleum, tea, cotton, and grain from the up-country stations on its banks, and returning laden with cargoes of salt, piece-goods, and a number of other articles. Some of these boats are in themselves floating bazars, on which the river villages have learnt to depend

for a regular supply of commodities. Native boats, too, ply up and down, performing on a small scale similar commercial functions to those discharged by the Company, and throughout the year rafts of bamboo and timber are floated in enormous quantities down the stream. The Irrawaddy is the main source of water-supply to the towns and villages on its banks. At Prome there are systematic water-works by which the river water is distributed through the town. The river is tidal as far as Danubyu or Donabyu, about 70 miles from the coast. The Irrawaddy is nowhere bridged. At two points, between Amarapura and Sagaing, and between Tharrawaw and Henzada, it cuts across the line of railway and is crossed by a steam ferry. A railway bridge at the first of these ferries is in contemplation.

Isāgarh Zila.—District of the Gwalior State, Central India, lying between 24° 3′ and 25° 1?′ N. and 76° 52′ and 78° 20′ E., with an area of 3,591 square miles. The population in 1901 was 248,679, giving a density of 75 persons per square mile. The district contains two towns, MUNGAOLĪ (population, 4,797), the head-quarters, and GUNA (including the military station, 11,452); and 1,367 villages. The country on the eastern and western borders is hilly, while that in the centre of the tract is typical of the Mālwā plateau. It is divided into four *parganas*, with head-quarters at Bajranggarh, Kumbhrāj, Isāgarh, and Mungaolī. The land revenue is Rs. 4,97,000.

Isa Khel Tahsīl. — Trans-Indus *tahsīl* of Miānwāli District, Punjab, lying between 32° 30′ and 33° 14′ N. and 71° 7′ and 71° 44′ E., with an area of 678 square miles. It contains the municipalities of ISA KHEL (population, 7,630), the head-quarters, and KĀLĀBĀGH (5,824); and 43 villages. The land revenue and cesses in 1903-4 amounted to 1·6 lakhs. Lying on the west bank of the Indus, this *tahsīl* is cut off from the rest of the District, and would seem to belong more properly to the North-West Frontier Province, but is separated even more completely from Bannu by the semicircular fringe of the Chichāli and Maidāni hills, which leave it open only on the river side. These hills drain into Isa Khel and make it fertile. Its extreme northern portion, known as the Bhangi Khel country, is a wild and rugged region, a continuation of the Khattak hills. The Bhangi Khel are a soldierly, but numerically small, section of the great Khattak tribe, and occupied their present country about 400 years ago. The *tahsīl* derives its name from the Isa Khel tribe, a section of the Niāzai Afghāns, who, settling here during the sixteenth century, long maintained their independence of the Mughal empire, and at last succumbed to the Nawāb of Dera Ismail Khān.

Isa Khel Town.—Head-quarters of the *tahsīl* of the same name in Miānwāli District, Punjab, situated in 32° 42′ N. and 71° 17′ E., on the right bank of the Indus, about 8 miles west of the present main

channel. Population (1901), 7,630. The town was founded about 1830 by Ahmad Khān, ancestor of the present Khāns of Isa Khel, who are the acknowledged heads of the trans-Indus Niāzai; and it takes its name from Shāh Isa Khel, a religious teacher, whose descendants still live in the town. The municipality was created in 1875. The income and expenditure during the ten years ending 1902–3 averaged Rs. 4,400. In 1903–4 the income was Rs. 5,100, chiefly derived from octroi; and the expenditure was Rs. 4,600. A small cattle market is held weekly. The town contains a dispensary and a municipal vernacular middle school.

Islāmābād.—Town in the State of Kashmir, situated in 33° 44′ N. and 75° 12′ E., about a mile from the right bank of the Jhelum, near the point where that river becomes navigable. Population (1901), 9,390. It lies under an elevated table-land, on the edge of which rises a conical hill, overlooking the town. From its foot flows a vigorous spring, the Anantnāg, a name applied to the town by Hindus. There are numerous other springs, one of which, the Maliknāg, is sulphurous, and its water is highly prized for garden cultivation. Some of the inhabitants are shawl-weavers, but a large number are engaged in agriculture. It is generally believed that Islāmābād was once a large and prosperous place, though now there are few signs of prosperity or growth. The sanitation has been much neglected, and this constitutes a danger to the health of the capital, Srīnagar.

Islāmnagar.—Town in the Bisaulī *tahsīl* of Budaun District, United Provinces, situated in 28° 20′ N. and 78° 44′ E., 6 miles south-east of the Bahjoī station on the Oudh and Rohilkhand Railway. Population (1901), 6,367. During the Mutiny, in May, 1858, there was a skirmish near this place between a body of rebels and the troops of the loyal Nawāb of Rāmpur, the latter being victorious. The town is administered under Act XX of 1856, with an income of about Rs. 1,500. It is the chief market in the neighbourhood for agricultural produce, and there is a large export of raw sugar. It contains a dispensary and a middle school with 112 pupils.

Islāmpur.—Town in Sātāra District, Bombay Presidency. *See* URUN-ISLĀMPUR.

Istālif.—Town in the Kābul province of Afghānistān, situated in 34° 59′ N. and 69° 5′ E., 20 miles north-north-west of Kābul city. The population, including that of seven villages depending on it, comprises from 15,000 to 18,000 souls. The inhabitants are Tājiks, Ghilzais, Kizilbāshis, and about fifty families of Sikh shopkeepers. The Tājiks of Istālif, contrary to the usual habits of these people, are among the most turbulent in the country. They have the reputation also of being the best foot-soldiers in Afghānistān, and are a healthy and handsome race, fond of sport and war.

The place is singularly picturesque and beautiful. It is built on the side of the hills in the form of a pyramid, the houses rising one above the other in terraces, the whole being crowned by magnificent *chinārs* (planes) which surround the shrine of Hazrat Eshan, while far below, in a deep glen, a foaming brook rushes over a bed of rocky boulders, on both sides of which the valley is covered with the richest orchards and vineyards. 'The people of the country have a proverb that he who has not seen Istālif has seen nothing; and certainly it may be allowed that he who has seen Istālif is not likely to see many places to surpass it, and few to equal it[1].' Nearly every householder has his garden or orchard, to which the families repair in the fruit season, closing their houses in the town. A great part of the population is of the weaver class, and quantities of coarse cloths are manufactured, a trade in which is maintained with Turkistān.

Istālif was destroyed in September, 1842, by a force under General McCaskill, on account of its having harboured several chiefs implicated in the murder of Sir A. Burnes at Kābul and in the massacre of the garrison of Chārikār.

Iswarīpur.—Village in the Sātkhira subdivision of Khulnā District, Bengal, situated in 22° 19′ N. and 89° 7′ E., on the Jamunā river. Population (1901), 362. It was formerly known as Yasohara, and was in the seventeenth century the capital of Rājā Pratāpāditya, the popular hero of the Sundarbans.

[*Report on Jessore* by Sir J. Westland (Calcutta, 1874), p. 23.]

Itaria.—Petty State in KĀTHIĀWĀR, Bombay.

Itārsi.—Town in the District and *tahsīl* of Hoshangābād, Central Provinces, situated in 22° 37′ N. and 77° 47′ E., on the Great Indian Peninsula Railway to Jubbulpore, 464 miles from Bombay and 936 from Calcutta. It is also the junction for the Indian Midland section to Cawnpore and Agra. Its population in 1901 was 5,769, and it is rapidly increasing in importance, the number having nearly doubled during the previous decade. Itārsi is the leading goods station in Hoshangābād District, receiving not only a considerable share of the local produce, but also nearly the whole of that of Betūl District. It has a large weekly cattle market, at which numbers of cattle are sold for slaughter. Itārsi contains an English middle school, maintained by the Friends Foreign Mission, and two primary schools.

Itimādpur Tahsīl.—Northern *tahsīl* of Agra District, United Provinces, conterminous with the *pargana* of the same name, lying between 27° 5′ and 27° 24′ N. and 77° 58′ and 78° 22′ E., with an area of 277 square miles. It was formerly known as Khandaulī. Population increased from 153,761 in 1891 to 159,881 in 1901. There are 180 villages and two towns, ITIMĀDPUR (population, 5,322), the

[1] Masson, *Narrative of Journeys in Baluchistan, Afghanistan, &c.*

tahsīl head-quarters, and TŪNDLA (3,044). The demand for land revenue in 1903–4 was Rs. 3,10,000, and for cesses Rs. 38,000. The density of population, 574 persons per square mile, is about the same as the District average. The *tahsīl* lies entirely north of the Jumna, and is crossed by the small river Jhirnā or Karon. Most of it forms a level upland of uniformly rich loam; but a network of ravines spreads inland from the Jumna and Jhirnā, which are barren and of use only for grazing. Bordering on the river beds lies a small tract of alluvial soil, which often deteriorates to sand, capable of producing nothing but melons. In 1903–4 the area under cultivation was 205 square miles, of which 75 were irrigated, almost entirely from wells.

Itimādpur Town.—Head-quarters of the *tahsīl* of the same name in Agra District, United Provinces, situated in 27° 14′ N. and 78° 12′ E., on the main road from Agra city to Mainpurī, and 2½ miles from the East Indian Railway junction at Tūndla. Population (1901), 5,322. The town is named after its founder, Itimād Khān, who built a large masonry tank here, and is said to have been a eunuch in the service of Akbar. It is administered under Act XX of 1856, with an income of about Rs. 900. Trade is purely local. The *tahsīli* school has about 100 pupils, and a primary girls' school 16 pupils, and there is a branch of the American Methodist Mission.

Itwad.—Petty State in REWĀ KĀNTHA, Bombay.

Jabalpur.—Division, District, *tahsīl*, and city in the Central Provinces. *See* JUBBULPORE.

Jabooa.—State in Central India. *See* JHĀBUA.

Jabria Bhīl.—*Thakurāt* in the BHOPĀL AGENCY, Central India.

Jacobābād Tāluka.—*Tāluka* of the Upper Sind Frontier District, Sind, Bombay, lying between 27° 56′ and 28° 26′ N. and 67° 59′ and 68° 37′ E., with an area of 460 square miles. It contains one town, JACOBĀBĀD (population, 10,787), head-quarters of the District and *tāluka*; and 85 villages. The population in 1901 was 64,972, compared with 48,330 in 1891. This is the most thickly populated *tāluka* in the District, the density being 141 persons per square mile. The land revenue and cesses in 1903–4 amounted to nearly 3·5 lakhs. The *tāluka* is irrigated by the Begāri Canal and its branches, and also to a slight extent by the Desert Canal.

Jacobābād Town.—Head-quarters of the Upper Sind Frontier District, Sind, Bombay, situated in 28° 17′ N. and 68° 29′ E., on the Sind-Pishīn branch of the North-Western Railway. Population (1901), 10,787, of whom 3,107 were in the cantonments. Jacobābād was planned and laid out, in 1847, by General John Jacob, for many years commandant of the Sind Horse, on the site of the village of Khāngarh. The town is oblong in shape, 2 miles long by 1 mile broad, and is watered by the Rāj Wah and Budhu Wah irrigation canals. Jacobābād

is now the head-quarters of a regiment of native cavalry, as well as of the civil administration. In addition to the cantonments, civil and judicial courts, dispensary and jail, it also contains a Residency in which General Jacob resided, the tomb of General Jacob, who died here in 1858, the Victoria clock-tower built in 1887, and lines for the accommodation of trade caravans (*kāfilas*) from Central Asia. Here are also a cloth market and vegetable market, built by the municipality. The railway carries a considerable trade in grain, *ghī*, and leather. The town was constituted a municipality in 1875. The income during the decade ending 1901 averaged Rs. 57,300. In 1903-4 the income was Rs. 70,000, composed chiefly of octroi (Rs. 32,000) and market fees (Rs. 17,000); while the expenditure was Rs. 76,000, including Rs. 22,000 spent on education, Rs. 16,000 on administrative charges, and Rs. 14,000 on roads. The income and expenditure of the cantonment fund in the same year were respectively Rs. 19,000 and Rs. 13,000.

Jādukāta.—River of Assam, which rises in the Khāsi Hills, where it is known as the Kynchiang or Panātīrtha, and after flowing west and south debouches on the plains of Sylhet. Here it divides into two main channels, that to the east being known as the Pātlai and farther on as the Bolai, that to the west as the Piyain. Both of these branches fall into the Kāngsa, and the united stream ultimately joins the Surmā in Mymensingh District a little to the west of Habiganj. The river is largely used as a trade route, affording an outlet for the products of the Khāsi Hills. During the rainy season it is often unable to carry off the enormous quantities of water precipitated in its catchment area, and considerable damage is then done by floods. The total length of the river is 120 miles.

Jāfarābād State.—State in the Kāthiāwār Political Agency, Bombay. It is a dependency of the Nawāb of Janjīra on the Konkan coast, and lies between 20° 52′ and 20° 59′ N. and 71° 24′ and 71° 29′ E., 170 miles south of Ahmadābād, 150 south-west of Baroda, and 165 north-west of Bombay, with an area of 42 square miles. The annual rainfall averages 25 inches.

About 1731, when the Mughal power was much relaxed in Kāthiāwār, Jāfarābād was independent under the rule of its *thānadārs*. They and the Muhammadan garrison, joining with the local Kolīs, &c., betook themselves to piracy and sorely harassed the trade and shipping of Surat. Sīdī Hilāl of the Janjīra house, who was then employed at Surat, attacked them and destroyed their ships, and imprisoning many Kolīs demanded a heavy fine from Jāfarābād. The *thānadārs*, being unable to pay the fine, sold Jāfarābād to Sīdī Hilāl. When Sīdī Hilāl perceived that he would not be able to retain the place, owing to the increased anarchy of the peninsula, he transferred it in 1762 to the

Nawāb of Janjīra, who paid his debts, amounting to Rs. 7,000, and sent him as governor on his behalf.

The population at the last four enumerations was: (1872) 8,549, (1881) 9,400, (1891) 12,389, and (1901) 12,097. In 1901 there were 9,863 Hindus and 2,225 Musalmāns. The State contains one town and 11 villages. The chief crops are *bājra*, cotton, and wheat, the cultivated area in 1903–4 being 24·7 square miles. Stone is quarried for building purposes. Coarse cotton cloth is manufactured. A *māmlatdār* with judicial and revenue authority resides at Jāfarābād on behalf of the Nawāb of Janjīra, and the area ranks as a first-class State in Kāthiāwār. The gross revenue in 1903–4 was Rs. 62,000, chiefly derived from land (Rs. 22,900) and customs (Rs. 12,500). There is only one municipality, namely, JĀFARĀBĀD TOWN. The State maintains a police force of 13 men, and has 9 schools with 374 pupils. The two dispensaries treated 6,000 patients in 1903–4. In the same year the number of persons vaccinated was 313.

Jāfarābād Town.—Chief town of the State of the same name in Kāthiāwār, Bombay, situated in 20° 52′ N. and 71° 25′ E. Population (1901), 6,038. Jāfarābad has great natural advantages for the coasting trade, being situated about a mile from the sea, on the estuary of the Ranai, the most accessible river on the coast of Kāthiāwār. The commerce of the port is only second in importance to that of Diu. The imports in 1903–4 amounted to 5·3 lakhs, and the exports to 3·3 lakhs. The town derives its name from Sultān Muzaffar of Gujarāt, who built the fortifications, the name being a contraction of Muzaffarābād. It is now a dependency of the Nawāb of Janjīra. A *māmlatdār* with judicial and revenue authority resides here on behalf of the Nawāb. The town is administered as a municipality, with an income of Rs. 1,400 in 1903–4.

Jagādhri Tahsīl.—Eastern *tahsīl* of Ambāla District, Punjab, lying at the foot of the Himālayas, between 30° 2′ and 30° 28′ N. and 77° 4′ and 77° 36′ E. with an area of 406 square miles. It is bounded on the south-east by the Jumna, which separates it from the United Provinces. The population in 1901 was 161,238, compared with 168,634 in 1891. It contains the towns of JAGĀDHRI (population, 13,462), the head-quarters, and BŪRIYA (5,865); and 379 villages. The land revenue and cesses in 1903–4 amounted to 2·9 lakhs. The *tahsīl* includes a small tract of hilly country in the Siwāliks. On the east lie the Jumna lowlands. The rest is generally level or gently undulating, and is intersected by torrent-beds.

Jagādhri Town.—Head-quarters of the *tahsīl* of the same name in Ambāla District, Punjab, situated in 30° 10′ N. and 77° 18′ E., about 5 miles north of the North-Western Railway, on the metalled road connecting Ambāla and Sahāranpur. Population (1901), 13,462. It

owes its importance to the Sikh chief Rai Singh of Būriya, who settled a commercial and manufacturing population here. The town had been entirely destroyed by Nādir Shāh, but was rebuilt by Rai Singh in 1783. It lapsed to the British Government in 1829. The name is said to be a corruption of Gangā Dhair, so called from a store of Ganges water enshrined in its foundations. Jagādhri is noted for its manufacture of iron and brass-ware. Borax, imported from the hills, is also refined, and oxide of lead manufactured. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 24,700, and the expenditure Rs. 24,300. In 1903–4 the income was Rs. 25,700, chiefly derived from octroi; and the expenditure was Rs. 25,500. It maintains an Anglo-vernacular high school and a dispensary.

Jagalūr.—Northern *tāluk* of Chitaldroog District, Mysore, lying between 14° 24′ and 14° 42′ N. and 76° 7′ and 76° 32′ E., with an area of 372 square miles. The population in 1901 was 47,196, compared with 38,229 in 1891. The *tāluk* contains one town, Jagalūr (population, 3,307), the head-quarters; and 168 villages. The land revenue demand in 1903–4 was Rs. 60,000. The country is slightly undulating, except where a low and rugged range of hills, covered with thorn jungle, runs from the middle to the north-west. The Chiknāyakanhalli auriferous band crosses the *tāluk* on both sides of this range. The Janagahalla river flows along the east, and a stream from the Anaji tank along the west. The soil in the south is superior to that in the north. Black soil predominates near Jagalūr and Bilchod. Cotton and white *jola* are grown only on the black soil. Rice and sugar-cane are much cultivated.

Jagannāth.—Temple in Purī town, Purī District, Bengal. *See* PURĪ TOWN, which is also called Jagannāth.

Jagannāthganj.—Village in the Tangail subdivision of Mymensingh District, Eastern Bengal and Assam, situated in 24° 41′ N. and 89° 46′ E., on the Brahmaputra. Population (1901), 609. It is the terminus of the Dacca-Mymensingh branch of the Eastern Bengal State Railway, and an important point of call for steamers.

Jagdīspur (1).—Town in the head-quarters subdivision of Shāhābād District, Bengal, situated in 25° 28′ N. and 84° 26′ E. Population (1901), 11,451. The town is a centre of the sugar industry. It was constituted a municipality in 1869. The income during the decade ending 1901–2 averaged Rs. 4,600, and the expenditure Rs. 4,400. In 1903–4 the income was Rs. 6,600, mainly from a tax on persons (or property tax); and the expenditure was Rs. 7,000.

Jagdīspur (2).—Head-quarters of Jashpur State, Central Provinces. *See* JASHPURNAGAR.

Jaggayyapeta.—Town in the Nandigāma *tāluk* of Kistna District,

Madras, situated in 16° 54′ N. and 80° 7′ E. Population (1901), 8,432. It is a dépôt for much of the commerce which passes between the Northern Circārs and the Nizām's Dominions, and possesses a small silk-weaving industry. The place was formerly called Betavolu; but a local chief, who enclosed it with a wall and invited merchants to settle there, named it, after his father, Jaggayyapeta. Near by was discovered in the last quarter of the nineteenth century a Buddhist *stūpa*, 66 feet in diameter and surrounded with marble sculptures.

Jagraon Tahsīl.—*Tahsīl* of Ludhiāna District, Punjab, lying on the south bank of the Sutlej, between 30° 35′ and 30° 59′ N. and 75° 22′ and 75° 47′ E., with an area of 418 square miles. It is bounded on the east and south by Patiāla and Māler Kotla States. The population in 1901 was 184,765, compared with 166,252 in 1891. It contains the two towns of JAGRAON (population, 18,760), the head-quarters, and RAIKOT (10,131); and 169 villages. The land revenue and cesses in 1903–4 amounted to 3·3 lakhs. It is divided into the Bet or Sutlej lowlands, and the Dhaia or upland plain, irrigated by the Abohar branch of the Sirhind Canal. The battle-field of ALĪWĀL is in this *tahsīl*.

Jagraon Town.—Head-quarters of the *tahsīl* of the same name in Ludhiāna District, Punjab, situated in 30° 47′ N. and 75° 28′ E., 26 miles from Ludhiāna town. Population (1901), 18,760. There is a considerable trade in wheat and sugar, and a local industry in ivory-carving, billiard-balls being turned. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 18,200, and the expenditure Rs. 15,600. In 1903–4 the income was Rs. 19,500, chiefly derived from octroi; and the expenditure was Rs. 25,000. The town has a Government dispensary, and the municipality maintains an Anglo-vernacular middle school.

Jagtial Tāluk.—*Tāluk* of Karīmnagar District, Hyderābād State, with an area of 971 square miles. The population in 1901, including *jāgīrs*, was 203,889, compared with 208,040 in 1891, the decrease being due to famine and cholera. The *tāluk* contains two towns, JAGTIAL (population, 11,181), the head-quarters, and KORATLA (5,524); and 251 villages, of which 54 are *jāgīr*. The land revenue in 1901 was 3·9 lakhs. Rice is extensively raised by means of tank-irrigation. The *tāluk* is crossed by a low range of hills in the south.

Jagtial Town.—Head-quarters of the *tāluk* of the same name in Karīmnagar District, Hyderābād State, situated in 18° 48′ N. and 78° 55′ E. Population (1901), 11,181. To the north of the town is a celebrated old fort, constructed in 1747 by Zafar-ud-daula. The town contains a dispensary and a State school, besides being the head-quarters of a Second Tālukdār. Silk *sārīs* and scarfs are made here by the Sālas.

Jahānābād Subdivision.—Northern subdivision of Gayā District, Bengal, lying between 24° 59′ and 25° 19′ N. and 84° 27′ and 85° 13′ E., with an area of 606 square miles. The population in 1901 was 386,535, compared with 393,817 in 1891; and with 638 persons to the square mile, it is more densely populated than the rest of the District. The country is alluvial, well cultivated, and intersected by several rivers; and the surface is generally level. It contains one town, JAHĀNĀBĀD (population, 7,018), its head-quarters; and 1,078 villages. It possesses several remains of archaeological interest, which are referred to in the article on GAYĀ DISTRICT.

Jahānābād Town (1).—Head-quarters of the subdivision of the same name in Gayā District, Bengal, situated in 25° 13′ N. and 85° 0′ E., at the confluence of the Morhar (or Dardhā) and Jamunā rivers, on the Patna-Gayā road and on the Patna-Gayā branch of the East Indian Railway. Population (1901), 7,018. It was once famous for its weaving industry, and in 1760 it formed one of the eight minor branches connected with the central factory of the East India Company at Patna. In the early years of the nineteenth century the town contained about 700 houses, a cloth factory, and a native agency for the manufacture of saltpetre. The manufacture of cotton cloth has now been displaced by Manchester goods, but large numbers of the Jolāhā or Muhammadan weaver class still live in the neighbourhood. The trade consists chiefly of food-grains, oilseeds, piece-goods, and fancy articles of European manufacture. The town contains the usual public offices; the sub-jail has accommodation for 70 prisoners.

Jahānābād Town (2).—Town in the Khajuhā *tahsīl* of Fatehpur District, United Provinces. *See* KORĀ.

Jahāngira.—Island in the Ganges, situated in the head-quarters subdivision of Bhāgalpur District, Bengal, in 25° 15′ N. and 86° 44′ E. It contains a *lingam*, a temple, and several interesting rock sculptures.

[*Archaeological Survey Reports*, vol. xv, pp. 20–4.]

Jahāngirābād.—Town in the Anūpshahr *tahsīl* of Bulandshahr District, United Provinces, situated in 28° 24′ N. and 78° 6′ E., 15 miles by metalled road from Bulandshahr town. Population (1901), 11,572. The town was built by Anūp Rai, founder of ANŪPSHAHR, who named it after the emperor Jahāngīr. The place stands low, and was formerly very unhealthy, owing to the stagnant water in the neighbourhood and a ditch round the town; but this has now been drained. Act XX of 1856 is in force, and the income is about Rs. 3,300. There is an important market, which is the centre of a flourishing grain trade. The principal manufacture is calico-printing, excellent counterpanes, curtains, and cloths being turned out. The middle school is attended by over 250 pupils, 40 of whom reside in a boarding-house; and there is a small aided primary school with 38 pupils.

Jahāzgarh.—Village in the Jhajjar *tahsīl* of Rohtak District, Punjab. *See* GEORGEGARH.

Jahāzpur.—Head-quarters of a *zila* or district of the same name, in the north-east corner of the State of Udaipur, Rājputāna, situated in 25° 37′ N. and 75° 17′ E., about 12 miles south-west of the cantonment of Deoli. Population (1901), 3,399. On an isolated hill overlooking the town, and guarding the eastern entrance of an important pass, stands a large and strong fort consisting of two ramparts, one within the other, each having a deep ditch and numerous bastions. Jahāzpur contains a primary school attended by 70 boys, and a hospital with accommodation for 10 in-patients. The town is said to have been taken by Akbar from the Rānā about 1567, and seven years later was given in *jāgīr* to Jagmāl, who had gone over to the imperial court in consequence of some disagreement with his elder brother, Rānā Pratāp Singh. In the eighteenth century it was held for short periods by the Rājā of Shāhpura, and in 1806 was taken possession of by Zālim Singh, the famous Dīwān of Kotah, who, at the intervention of the British Government, gave it up in 1819, when it was restored to Udaipur. The district now consists of the town and 306 villages, largely inhabited by Mīnās.

Jaigarh.—Seaport in the District and *tāluka* of Ratnāgiri, Bombay, situated in 17° 17′ N. and 73° 13′ E., at the southern entrance to the Shāstri or Sangameshwar river, 99 miles south of Bombay. Population (1901), 2,567. The harbour forms a bay 2 miles long and 5 miles broad, with deep water, and well protected against winds. The exports, which amounted to 4·9 lakhs in 1903–4, are chiefly firewood and molasses; the imports, which in the same year amounted to 6·6 lakhs, are principally rice and salt. Jaigarh is now little more than a fishing village. The fort, which occupies an area of 4 acres, is situated close to the shore on gently rising ground about 200 feet above the sea. The walls and bastions are, except in a few places, still in good repair, but are gradually decaying. The fort was originally built by the Bijāpur kings, and was afterwards the retreat of a noted Hindu pirate, the Naik of Sangameshwar, who was sufficiently powerful to resist two combined expeditions of the Portuguese and Bijāpur forces sent against him in 1583 and 1585. In 1713 Jaigarh passed into the hands of the famous Marāthā sea-robber Angriā; and in June, 1818, on the downfall of the Peshwā, was surrendered to the British. A lighthouse, visible for 13 miles, stands on the headland. The town contains one school.

Jaijon.—Ancient town in the Garhshankar *tahsīl* of Hoshiārpur District, Punjab, situated in 31° 21′ N. and 76° 13′ E., on the outer edge of the Siwāliks, 10 miles north of Garhshankar town. Population (1901), 2,705. Though now of small importance, it was in early

days the seat of the Jaswāl Rājās. Rājā Rām Singh first took up his residence here; and the fort which commanded the pass in the hills is said to have been constructed in 1701, and to have been taken by Ranjīt Singh in 1815. It was dismantled by the British Government at annexation. The ruins of the palaces of the Jaswāl Rājās are still visible above the town. The place was till lately an emporium of trade, second only to Hoshiārpur; and even now a good deal of cloth, both country and English, passes through towards the hills, while hill produce, such as rice, turmeric, &c., passes down to the plains.

Jainagar.—Town in the District of the Twenty-four Parganas, Bengal. *See* JAYNAGAR.

Jaintiā Parganas.—A tract of country in the north-east corner of Sylhet District, Eastern Bengal and Assam, lying between 24° 52′ and 25° 11′ N. and 91° 45′ and 92° 25′ E., and between the Jaintiā Hills and the Surmā river. Area, 484 square miles: population (1901), 121,157. The *parganas* consist of a series of low depressions or basins drained by the streams flowing into the Surmā. The banks of the rivers are the highest part of the country, and are generally lined with villages, but in the centre of the basins water often remains throughout the year. Much of the land at the foot of the hills and at the western end of the tract lies too low for cultivation and is covered with high jungle, and here and there the level of the plain is broken by low isolated hills. The *parganas* originally formed part of the territory of a native prince whose dominions extended over the Jaintiā Hills to the Kalang river in the plains of Assam. The Jaintiā Rājās were of Synteng or Khāsi origin, and, although they had long come under the influence of Hinduism, the custom of descent through the female line was still maintained. Tradition has preserved the names of twenty-two kings, and is, to some extent, confirmed by coins and native records, which refer to the conquest of the State by the Koch king Nar Nārāyan about 1565. The Jaintiā Rājā was defeated and captured by the Ahom generals at the beginning of the eighteenth century: but the hillmen declined to submit to the conqueror's yoke, and the State continued for all practical purposes to be independent. When Cāchār was invaded by the Burmans in 1824, the Jaintiā Rājā entered into an alliance with the British, but his conduct in this, as in other matters, was not entirely above suspicion. In 1832 he kidnapped four British subjects from Sylhet, and sacrificed three of them at Phāljor before the shrine of the goddess Kālī. Similar attempts had been made on three previous occasions, and the British Government demanded the surrender of the guilty parties. No satisfaction could be obtained by diplomacy; and in 1835 the Government, as a mark of their displeasure, annexed that portion of the kingdom which lay in the Sylhet plains. The Rājā then declined to

retain any portion of his diminished dominions, and the Jaintiā Hills lapsed to the British Government. After annexation the *parganas* were settled in 1836 for Rs. 36,000, and this settlement remained substantially in force for the next twenty years. In 1856 they were resettled for a further term of twenty years, the revenue demand at the commencement of the settlement being Rs. 54,000, rising to Rs. 62,000 in 1876, owing to the inclusion of land taken up during its currency. At the next settlement the revenue was raised to Rs. 1,68,000; but as it was found that the people could not bear such a sudden enhancement, the demand was reduced to Rs. 1,24,000. In 1898 the *parganas* were again resettled for a term of fifteen years, the demand being fixed at Rs. 1,87,000 on an area of 197,000 acres, of which 72,000 acres were uncultivated. The rates assessed on homestead and cultivated land vary from Rs. 2-10 to 12 annas an acre. Four-fifths of the cultivated area is under rice, most of which is of the long-stemmed variety sown in marshy tracts. In the cold season mustard and linseed are grown, chiefly on land which lies too low for rice. The rainfall is abundant, but is sometimes unfavourably distributed, and much damage is occasionally done by the floods of the hill streams. On the other hand, the soil is fertile, and the villagers can obtain a ready market for the surplus products of their rice-fields and of the excellent fruit gardens that surround their houses. The people are, however, unenterprising and backward, village industries are almost unknown, and the ryots are in consequence compelled to buy nearly everything that they require. A considerable portion of the *parganas* lies too low for cultivation and is covered with dense jungle, and the climate at the foot of the hills is malarious and unhealthy.

Jaintiāpur.—Village in the North Sylhet subdivision of Sylhet District, Eastern Bengal and Assam, situated in 25° 8′ N. and 92° 8′ E. It was formerly the capital of the Jaintiā Rājā, whose territory was annexed in 1835 in consequence of his complicity in the murder of three British subjects offered up to the goddess Kālī. There were formerly some interesting remains, marking the transition from the primitive paganism of the hill tribes to the elaborate Hinduism imported from Bengal, the former symbolized by great monoliths of unhewn stone, the latter by Hindu temples with their carvings and images. These ruins were, however, thrown down by the earthquake of 1897, and Jaintiāpur is no longer a place of much importance. A market largely attended by the hill tribes is, however, held here once a week.

Jaipur Residency.—One of the eight Political Charges into which Rājputāna is divided. It is made up of the States of Jaipur and Kishangarh and the small chiefship of Lāwa, lying in the eastern half of the Agency, between 25° 41′ and 28° 34′ N. and 74° 40′ and 77° 13′ E. It is bounded on the north by Bīkaner and the Punjab; on the west

by Jodhpur and the British District of Ajmer; on the south by the Shāhpura chiefship, and the States of Udaipur, Būndi, Tonk, Kotah, and Gwalior; and on the east by Karauli, Bharatpur, and Alwar. The head-quarters of the Resident are at Jaipur. The population has varied: (1881) 2,642,457, (1891) 2,952,842, and (1901) 2,752,307. The decrease of nearly 7 per cent. during the last decade was due to the famine of 1899–1900, and to a severe outbreak of malarial fever in the autumn of 1900. The total area is 16,456 square miles, and the density of population 167 persons per square mile, as compared with 76 for the Agency as a whole. Although fourth in size among the political divisions of Rājputāna, the Residency ranks first as regards population. In 1901 Hindus formed nearly 91 per cent. of the total, and Musalmāns 7 per cent. There were also 956 Christians (including 394 natives).

The following table gives details for the States and chiefship forming the Residency:—

State.	Area in square miles.	Population, 1901	Normal land revenue (*khalsa*), in thousands of rupees.
Jaipur . . .	15,579	2,658,666	42,00
Kishangarh . .	858	90,970	1,50
Lāwa (chiefship) .	19	2,671	10
Total	16,456	2,752,307	43,60

There are altogether 5,959 villages and 41 towns. The largest towns are JAIPUR CITY (160,167), SĪKAR (21,523), FATEHPUR (16,393), KISHANGARH (12,663), NAWALGARH (12,315), JHŪNJHUNU (12,279), HINDAUN (11,938), and RĀMGARH (11,023).

Jaipur State.—State in the north-east and east of Rājputāna, lying between 25° 41′ and 28° 34′ N. and 74° 41′ and 77° 13′ E. Its area is 15,579 square miles, and it is consequently the fourth largest of the Rājputāna States. It is bounded on the north by Bikaner, Lohāru, and Patiāla, while its detached district of Kot Kāsim adjoins the Rewāri *tahsīl* of Gurgaon District and the State of Nābha; on the west by Bīkaner, Jodhpur, Kishangarh, and the British District of Ajmer; on the south by Udaipur, Būndi, Tonk, Kotah, and Gwalior; and on the east by Karauli, Bharatpur, and Alwar. The country is for the most part fairly level and open, although its surface is crossed and diversified by groups and ranges of hills, and by isolated peaks. The centre of the State is an elevated table-land of triangular form, from 1,400 to 1,600 feet above sea-level. The base of this triangle is a line running west from Jaipur city; the eastern side consists of ranges of hills running north and south along the Alwar border; while the apex is

Physical aspects.

formed by a broken chain of hills, a portion of the ARĀVALLI range, which runs from near the Sāmbhar Lake in a north-easterly direction as far as Khetri. These hills attain a considerable height, the loftiest peak being Raghunāthgarh (3,450 feet above the sea), and form a natural boundary between the sandy desert tract of SHEKHĀWATI to the north and the fertile plains of Jaipur proper to the south and south-east. Westward from the capital, the country rises gradually towards the Kishangarh border, consisting in great measure of broad, open, treeless plains, dotted here and there with hills. In the extreme south the hills reappear; and in the neighbourhood of Rājmahal, where the Banās river has forced its way through the range, the scenery is remarkable for its beauty. The south-eastern portion of the State has many ranges of low hills, and near the Karauli border is much intersected by ravines, while to the east of the capital there is a rapid fall of from 300 to 400 feet within the first two or three miles, after which a gradual slope follows the valley of the Bāngangā river to the Bharatpur border.

The BANĀS, the principal river of Jaipur, flows for about 110 miles through, or along the borders of, the State. It has numerous tributaries, such as the Dain, the Māshi, the Dhil, the Galwa, and the Morel. The CHAMBAL merely forms the south-eastern boundary of the State, separating it from Kotah and Gwalior territory. The BĀNGANGĀ is for about 90 miles a river of Jaipur, flowing first in a south-easterly direction and then almost due east. Among other rivers are the Bāndi, a tributary of the Māshi; the Dhūnd and Khāri, tributaries of the Morel; the Amān-i-Shāh, which supplies Jaipur city with drinking-water, and joins the Dhūnd; the Mendha, which flows into the Sāmbhar Lake; the Sābi or Sāhibi, which flows north-east into Alwar, and thence through Kot Kāsim, into Gurgaon; and lastly the Kāntli or Kātli, which, after a northerly course of some 60 miles through Shekhāwati, loses itself in the sand just within the Bīkaner border. Almost all the minor rivers are dry during the hot months. The only natural lake of any importance is the salt lake at SĀMBHAR, the eastern portion of which is the joint property of the Jaipur and Jodhpur Darbārs.

A considerable part of the State is covered with alluvium, but in the northern and eastern districts large areas are occupied by schists belonging to the Arāvalli system, resting on gneiss and overlaid by quartzites of the Delhi system. Intrusive granite is common in the Torāwati hills in the north-east. Copper is found at KHETRI and SINGHĀNA at the northern end of the Arāvalli range; at the former place the ore occurs in schists, and at the latter in the Alwar quartzites. Nickel and cobalt are found at Babai (7 miles south of Khetri) in association with copper pyrites disseminated through the slates, the ore being known as *sehta*. At Karwar near Hindaun iron occurs in the

jaspideous shales of the Gwalior series, while near Rājmahal in the south-west garnets are collected from the Arāvalli schists.

The country contains the usual small game, including imperial sand-grouse in parts of Shekhāwati; there are fine herds of antelope near the capital, and a fair number of wild hog. In the two large game preserves, the one north-east of Jaipur city and the other near Sawai Mādhopur in the south-east, tigers, leopards, hyenas, and *sāmbar* (*Cervus unicolor*) are found; and the preserve last mentioned also contains black bears.

The climate is dry and healthy, and malarious fevers, though very prevalent in 1900 and 1901, are of rare occurrence. During the hot season the winds from the west blow with great force in Shekhāwati and the northern portions of Jaipur, but the sand soon parts with its heat, and the nights are generally pleasant and the mornings cool. The mean temperature at Jaipur city, taken from a record of thirty-five years, is 77°, varying from 59° in January to 91° in June. In 1904 the maximum temperature was 114° in May, and the minimum 37° in January.

The annual rainfall for the whole State averages a little less than 23 inches, of which 20 inches are received in July, August, and September. The rainfall varies from 15 to 18 inches in the north, 21 in the west, and about 25 at the capital, to more than 31 inches in the south-east. The maximum fall in any one year was 55 inches at the capital in 1892, and the minimum 4 inches at Jhūnjhunu in the north in 1901.

History.

The Mahārājā of Jaipur is the head of the Kachwāha clan of Rājputs, which claims descent from Kusa, the son of Rāma, king of AJODHYĀ, and the hero of the famous epic poem the Rāmāyana. The early history of the family is obscure; but they are said to have settled at Rohtās on the Son river, whence, towards the end of the third century, they migrated to Gwalior and Narwar. Here the Kachwāhas ruled for about 800 years, but they were not always independent, nor was their rule unbroken. The first Kachwāha chief of Gwalior of whom there is any record was Vajradāman, who, according to an inscription at Gwalior dated A.D. 977, took the town about that time from the rulers of Kanauj, and became independent. The eighth in descent from Vajradāman was Tej Karan, otherwise known as Dulha Rai ('the bridegroom prince'), who left Gwalior about 1128. There are different stories as to the cause of his departure. Some say that he was expelled by his uncle, and others that he left in order to marry Maroni, the daughter of the Bargūjar Rājput chief of DAOSA, leaving Gwalior in charge of his sister's son, who was either a Parihār or a Paramāra Rājput, and who repaid the confidence thus placed in him by usurping that principality. Both accounts, however, agree that Dulha Rai received

from his father-in-law (who had no sons) the district of Daosa; and the Kachwāha dynasty in Eastern Rājputāna may be said to date from about 1128, with the town of Daosa as its first capital. The country was at this time called Dhūndhār, a name variously derived from a once celebrated sacrificial mound (*dhūndh*) on the western frontier near Kalakh and Jobner, or from a demon-king called Dhūndhu, whose cave is still pointed out on the hill at Galta, a little to the east of Jaipur city, or from the river Dhūnd; and it was parcelled out among petty Rājput and Mīnā chiefs, all owing allegiance to the Rājput kings of Delhi. About 1150 one of Dulha Rai's successors wrested Amber from the Susāwat Mīnās and made it his capital. It remained such for nearly six centuries, and gave its name to the State. Pajūn, fourth (or, as some say, fifth) in descent from Dulha Rai, is said to have married the sister of Prithwī Rāj Chauhān, the last Hindu king of Delhi, and was killed with the latter in 1192 in a battle with Muhammad Ghorī. Towards the end of the fourteenth century Udai Karan was chief of Amber, and about this time the district now called SHEKHĀWATI came into the possession of the Kachwāhas.

On the irruption of the Mughals into Hindustān, the Amber State at once succumbed to their supremacy. Bahār Mal, who was chief from about 1548 to 1574, was the first to pay homage to the Muhammadan power. He received from Humāyūn the command of 5,000, and gave his daughter in marriage to Akbar. Bahār Mal's son, Bhagwān Dās, was the friend of Akbar, whose life he is said to have saved at the battle of Sarnāl. He was also a commander of 5,000 horse, and subsequently governor of the Punjab; in 1585 or 1586 he gave his daughter in marriage to Salīm, who afterwards mounted the throne of Delhi as Jahāngīr. Mān Singh, the adopted son of Bhagwān Dās, succeeded about 1590, and died about 1614. He was one of the most conspicuous of the imperial generals and, though a Hindu, was raised to a higher rank (commander of 7,000) than any other officer in the realm. He fought in Orissa, Bengal, and Assam, and at different periods was governor of Kābul, Bengal, Bihār, and the Deccan. The next chief of note was Jai Singh I, commonly known by his imperial title of Mirza Rājā. His name appears in all the wars of Aurangzeb in the Deccan. He was the commander of 6,000 horse, and he captured Sivajī, the celebrated founder of the Marāthā power. Eventually, it is said, Aurangzeb, becoming jealous of Jai Singh, caused his death by poison in 1667 or 1668. Passing over two chiefs, we come to Jai Singh II, commonly known as Sawai Jai Singh. Sawai was a title given by the Mughal emperor, and is borne by his descendants to this day. The word means 'one and a quarter,' and is supposed to measure the superiority of the bearer to all his contemporaries, whom the unit signifies. He succeeded

to the *gaddi* of Amber in 1699, and died in 1743. He was chiefly remarkable for his scientific knowledge and skill. He caused many mathematical works to be translated into Sanskrit; and he erected observatories at Jaipur, Delhi, Benares, Muttra, and Ujjain, by which he was able to correct the astronomical tables of De La Hire and to leave, as a monument of his skill, lists of stars collated by himself known as the *Zīj Muhammad Shāhi*, or astronomical tables of Muhammad Shāh, then king of Delhi, in whose favour he stood high. Removing his capital from Amber, he laid out and built the present city of Jaipur in 1728. Jai Singh was one of the most remarkable men of his age and nation. Amid revolution, the destruction of the empire, and the meteoric rise of the Marāthās, he not only steered through the dangers, but elevated his State above all the principalities around. He made, however, one great mistake. The Jaipur and Jodhpur chiefs had renewed with Udaipur the treaty for common defence against the Muhammadan power; but to obtain the privilege of remarrying with the Udaipur family, which they had forfeited by giving daughters to the emperors, they agreed that the son of an Udaipur princess should succeed in preference to an elder son by other wives.

This attempt to set aside the rights of primogeniture brought great disasters on both Jaipur and Jodhpur. Soon after Jai Singh's death, the Jāts of Bharatpur, after several successful encounters with the Jaipur chief, annexed a portion of the State, and the defection of the chief of Māchери (now ALWAR), about 1790, further reduced the limits of the territory. By the end of the century Jaipur had fallen into great confusion, being distracted by internal broils and impoverished by the exactions of the Marāthās. In 1803, in the time of Jagat Singh, the most dissolute prince of his race or age, a treaty was concluded with Jaipur by the British Government, the object being to form a league against the Marāthās; but the alliance was dissolved in 1805, on the ground that the State had violated its engagements by not co-operating against Holkar. Subsequently the disputes between Jaipur and Jodhpur for the hand of the daughter of the Udaipur chief brought both States to the verge of ruin, while Amīr Khān, with his Pindāri mercenaries, was exhausting the country. In 1817 negotiations began again; and in 1818 a treaty was signed, by which the protection of the British Government was extended to Jaipur and an annual tribute fixed. Jagat Singh died in December, 1818, and was succeeded by a posthumous son, Jai Singh III, during whose minority the State was a scene of corruption and misgovernment. A rebellion in the city in the latter part of 1820 led to the deputation for the first time of a British officer to reside at the capital. In 1835, on the succession of Mahārājā Rām Singh, a serious disturbance in the city took place,

in which Colonel Alves, the Governor-General's Agent in Rājputāna, was wounded, and his Assistant, Mr. Martin Blake, killed. After this, the British Government took measures to maintain order. A Council of Regency, consisting of five of the principal nobles, was formed under the superintendence of the Political Agent, to whose decision all measures of importance were submitted. The army was reduced and every branch of the administration reformed. The tribute, fixed by the treaty of 1818 at 8 lakhs, was subsequently considered excessive; and in 1842 a remission was made of over 46 lakhs of arrears, and the annual tribute was reduced to 4 lakhs. Mahārājā Rām Singh received full powers in 1851; during the Mutiny he placed the whole of his available military power at the disposal of the Political Agent, and in every way assisted the British Government, and he was rewarded with the grant of the *pargana* of Kot Kāsim. In 1862 he obtained the privilege of adoption, and in 1863 was created a G.C.S.I. For his praiseworthy behaviour and liberality during the famine which visited Rājputāna in 1868 he received an addition of two guns to his salute for life; at the Imperial assemblage at Delhi in January, 1877, his personal salute was raised to 21 guns, and he became a Counsellor of the Empress; and in 1878 he was made a C.I.E. He died in 1880 without male issue.

Mahārājā Rām Singh was an intelligent ruler, and took great interest in opening up roads through his State and also in education. Moreover, he much extended irrigation, and gave his capital the benefits of gas and water-works. On his death-bed he nominated as his successor Kaim Singh, the younger brother of the Thākur of Isarda and a descendant of the second son of Mahārājā Jagat Singh. The Government confirming the selection, Kaim Singh succeeded in 1880 under the name of Sawai Mādho Singh II, and is the present ruler. He was born in 1862, and, in consideration of his youth, the administration was at first conducted by a Council under the joint presidency of the Mahārājā and the Political Agent. He was invested with full powers in 1882, and has worthily followed in the footsteps of his adoptive father. In 1887 his salute was raised from 17 to 19 guns as a personal distinction, followed in 1896 by two additional guns. In 1888 he was created a G.C.S.I.; in 1901 a G.C.I.E.; and in 1903 a G.C.V.O. In 1904 he was made honorary colonel of the 13th Rājputs (the Shekhāwati Regiment). Among important events of His Highness's rule may be mentioned the raising of the Imperial Service transport corps in 1889–90; the construction of numerous irrigation works, hospitals, and dispensaries; the gift of 20 lakhs as an endowment to the Indian People's Famine Relief Trust; and his visit to England in 1902 in connexion with the coronation of King Edward VII. Mahārājā Mādho Singh has no

near relations on the male side. In the event of failure of direct heirs, the right of succession is vested in the Rājāwat family, or the descendants of the eldest son of Prithwī Rāj, who was chief of Amber in the sixteenth century.

Among places of archaeological and historical interest may be mentioned AMBER, BAIRĀT, CHĀTSU, DAOSA, and the fort of RANTHAMBHOR. At Ambāheri in the Baswa *tahsīl* are some interesting old palaces, and at Toda Rai Singh in the south-west is another old palace ascribed to a Sesodia Rājā, Rai Singh (in the seventeenth century).

Population.

The number of towns and villages in the State is 5,773, and the population at each of the three enumerations was: (1881) 2,527,142, (1891) 2,823,966, and (1901) 2,658,666. The territory is divided into ten *nizāmats* or districts, and contains one city, the capital of the State, and 37 towns. The chief towns are SĪKAR, FATEHPUR, NAWALGARH, JHŪNJHUNU, RĀMGARH, and LACHMANGARH, all in Shekhāwati in the north, HINDAUN in the east, and SAWAI MĀDHOPUR in the south-east. The following table gives the principal statistics of population in 1901:—

Nizāmat	Number of Towns.	Number of Villages.	Population.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write
Sawai Jaipur	6	1,535	694,284	- 3·6	23,565
Daosa	3	792	332,437	+ 0·05	5,520
Gangāpur	2	154	74,175	− 8·6	1,315
Hindaun	2	411	185,113	− 0·7	3,138
Kot Kāsim	...	53	20,827	+ 22·1	364
Sawai Mādhopur	2	621	216,321	− 10·9	4,194
Mālpura	3	381	134,328	− 32·0	3,836
Sāmbhar	3	305	171,618	− 6·89	5,882
Shekhāwati	12	953	471,961	- 3·3	11,816
Torāwati	5	530	357,602	+ 4·4	7,536
State total	38	5,735	2,658,666	− 5·85	67,166

The decrease in population during the last decade was due to the famine of 1899–1900, which was most severely felt in Mālpura, and to the severe outbreak of malarial fever and cholera that followed it. Kot Kāsim suffered least from this famine, and the increase in its population is ascribed to immigration from the neighbouring tracts. Jaipur has a larger population than any other State in Rājputāna, while as regards density it stands fourth, with 171 persons per square mile. Of the total, 2,418,401, or more than 90 per cent., are Hindus, the prevailing sects being Vaishnava. Of Hindu sects with a peculiar doctrine and worship, the most notable is that of the Dādūpanthis,

who in 1901 numbered 8,610, and have their head-quarters at NARAINA near the Sāmbhar Lake. Muhammadans number 193,044, or over 7 per cent., while 44,630 are Jains. The languages mainly spoken are Jaipurī or Dhūndārī, one of the four main groups of Rājasthānī; Bāgri, a form of Mārwārī; and Dāngī, a form of Western Hindī.

Of castes and tribes, the Brāhmans come first, numbering 349,000, or over 13 per cent. of the total; they are mostly cultivators. Next are the Jāts (265,000, or nearly 10 per cent.), well-known as patient and laborious agriculturists. The Mīnās number 241,000; they held a good deal of this part of the country in the twelfth century, and for some time after they were dispossessed by the Kachwāha Rājputs it was customary for one of their number to mark the *tika* on the forehead of a new chief of Amber. They are now divided into two main classes: namely, the *zamīndāri* or agriculturists, and the *chaukīdāri* or watchmen; the former are industrious and well behaved, while the latter were, and to some extent still are, famous as marauders. As noticed later on, it is not always easy to distinguish one class from the other. The Chamārs (workers in leather and agriculturists) number 218,000, Mahājans (bankers and traders), 212,000: Gūjars (cattle-breeders and agriculturists), 184,000; Rājputs, 124,000 (of whom 63,300 belong to the Kachwāha clan, 15,000 to the Rāthor, 13,300 to the Chauhān, and 12,800 to the Tonwar, while 3,532 were returned in 1901 as Muhammadans); Mālis (gardeners and agriculturists), 116,000. More than 53 per cent. of the people live by the land, and over 19 per cent. are masons, builders, cotton-weavers, tailors, workers in gold, silver, and precious metals, shoemakers, and the like.

Out of 364 native Christians returned in 1901, 208 were Methodists, 50 Anglicans, 46 Roman Catholics, and 38 Presbyterians. The comparatively large number of Methodists, found almost entirely in the Sāmbhar *nizāmat*, is due to the presence of the American Methodist Mission at Ajmer. The United Free Church of Scotland Mission has had a branch at Jaipur since 1866.

Agriculture.

Agricultural conditions vary in different parts of the State. Shekhāwati consists almost entirely of shifting sands, and generally produces only one harvest in the year, raised during the rainy season and ripening in October and November. This consists chiefly of *bājra*, *mūng*, and *moth*. Camels are usually yoked to the plough instead of bullocks. The soil in the immediate neighbourhood of the capital and to the west and north is generally sandy; the rains crop is the same as in Shekhāwati, and a little wheat and barley are grown in the cold season. To the east of the capital, along the Bāngangā valley and in the southern districts, the soil is for the most part either black cotton or a rich alluvial loam. Here *jowār*, maize, cotton, and *til* are grown in the rains, while the cold-season

crops are wheat, barley, gram, sugar-cane, and poppy. In the Gangāpur district in the east, rice of a coarse quality is cultivated to a small extent.

Agricultural statistics are available only for the *khālsa* portion of the State, excluding Shekhāwati. The area for which particulars are on record is 3,548 square miles, or rather more than one-fifth of the total; deducting 961 square miles, which either comprise forests or are otherwise not available for cultivation, there remain 2,587 square miles, of which, in 1903-4, about 1,304 square miles, or over 50 per cent., were actually cultivated. The area cropped more than once was 57 square miles, and consequently the net area cropped was 1,247 square miles. These statistics, which are available only from 1895-6, show that in that year 1,310 square miles were cultivated; the area under cultivation in the disastrous famine year of 1899-1900 fell to 765 square miles, and since then there has been a steady increase to the present figure.

The staple food-grains of the people are *bajra*, barley, and *jowār*, the areas under which, in 1903-4, were respectively about 271, 207, and 160 square miles, or, collectively, about one-half of the total area cultivated. Next in importance come wheat, the area under which was 114 square miles; cotton, 93 square miles (mostly in Mālpura in the south-west); gram, 66 square miles; *til*, 53 square miles; and maize, 52 square miles.

There have been no improvements of recent years either in agricultural methods or in the introduction of new seed, the people being very conservative. Increased facilities for irrigation led to extended cultivation up to 1899-1900, when a disastrous famine occurred, but the State is rapidly recovering. Loans are regularly advanced to agriculturists for the purchase of seed and cattle, or for the improvement of wells, a sum of Rs. 50,000 being provided annually for this purpose.

Jaipur has no particular breed of cattle or horses. No attempts have been made to improve the indigenous strains, and the best animals are imported. Sheep and goats are reared in considerable numbers, and the camels of Shekhāwati are of a good stamp, being strong and hardy.

Of the total area cultivated (in *khālsa* territory, excluding Shekhāwati) 436 square miles, or 33 per cent., were irrigated in 1903-4: namely, 45 square miles from canals, 20 from tanks, 342 from wells, and 29 from other sources. The number of wells has not been recorded, but 200 irrigation works in the State are in charge of the Public Works department. The expenditure on them between 1868 and 1904 has exceeded 66 lakhs, while the revenue realized from them during the same period approaches 59 lakhs. Perhaps the most important of these works is that known as the Rāmgarh *band*, which is described in.

the article on the BĀNGANGĀ river. Another fine tank is the Tordi Sāgar in the south-west, close to the town of MĀLPURA. The Buchāra *band* in the Torāwati hills, 60 miles north of the capital, can hold up water sufficient to irrigate about 17 square miles, and cost, when completed in 1889, 2·8 lakhs. The total expenditure to 1903 was about 3·4 lakhs, and the revenue realized 2·8 lakhs. One of the most remunerative of the larger irrigation works is the Kalakh Sāgar, about 30 miles north-west of the capital. It was completed in 1883 at a cost of 2 lakhs, and can, when full, irrigate nearly 8 square miles. It has 55 miles of main canals and 118 miles of distributaries. The total expenditure to 1903 was about 3 lakhs, and the revenue during the same period no less than 6·4 lakhs. Among more recent and smaller works is the Fateh Sāgar in the Hindaun district in the east; it has cost (including repairs) less than Rs. 15,000, while the actual revenue it brought in up to 1903 was 1·4 lakhs. During the official year 1902–3 the revenue from this tank was Rs. 13,900, or more than 95 per cent. on the capital outlay.

The forests cover an area of about 283 square miles, and are divided into 'reserved' (71 square miles), demarcated (93 square miles), and undemarcated (119 square miles). The 'reserved' portion is mostly in the Sawai Jaipur and Mādhopur *nizāmats*. There are but few valuable timber trees. The following are common: *babūl* (*Acacia arabica*), *ber* (*Zizyphus Jujuba*), *dhāk* (*Butea frondosa*), *dhokra* (*Anogeissus pendula*), *gūlar* (*Ficus glomerata*), *jāmun* (*Eugenia Jambolana*), *khair* (*Acacia Catechu*), *nīm* (*Melia Azadirachta*), *pīpal* (*Ficus religiosa*), and, in the south, *shīsham* (*Dalbergia Sissoo*) and bamboo. Right-holders graze their cattle free of charge, and others on payment. The forest produce, such as firewood, bamboos, grass, fruits, honey, and lac, is sold. The yearly revenue is about Rs. 24,000, and the expenditure Rs. 8,600.

Apart from salt, which is largely manufactured at the SĀMBHAR LAKE, the minerals of the State are now hardly worked at all. Iron occurs near Khetri, and at Karwar close to Hindaun, but the mines have long been abandoned. The well-known copper mines of Khetri and Singhāna have not been worked for many years; but in this neighbourhood, particularly at Babai, cobalt is found in thin layers between the veins of copper ore, and is much used for enamelling. Good building stone, chiefly sandstone and marble, is plentiful. At Bhānkri, 36 miles east of the capital, and at Toda Rai Singh in the south-west, huge slabs of a foliated mica schist are quarried, and are used for roofing and flagging purposes. Coarse grey marble comes from Raiāla near the Alwar border; and a black marble, used for inlaying work, is obtained at Bhainslāna near Kot Pūtli in the north-east. Abundance of excellent limestone is procured from Rahori, about 14 miles north-east of the capital, and *kankar* is found almost

everywhere, generally in flat beds instead of in scattered nodules. Garnets of the best kind are fairly common in the Rājmahal hills near the river Banās in the south-west, and turquoises are said to have been found at Toda in the same neighbourhood. From the Hindaun district in the east come talc and the steatite of which the well-known Agra toys are made.

Trade and communications.

The chief manufactures are woollen cloths and fabrics, cotton cloths and chintzes, marble sculpture, enamel-work, pottery, and brass and lacquer-work. The woollen goods are turned out at MĀLPURA. The SANGANER and BAGRU chintzes, or dyed and stamped cotton cloths, are perhaps the most characteristic of Jaipur textiles, but their sale has decreased owing to the presence in the bazars of cheap imported imitations. In enamelling on gold Jaipur is acknowledged to be pre-eminent, and some work is also done on silver and copper.

There are three cotton-presses in the State: two at the capital, started in 1885: and one at Mandāwar or Hindaun Road, started in 1893. They are owned and worked by the State, and give employment to about 240 hands. In 1904 about 3,730 tons of cotton and 4 tons of wool were pressed; the expenditure was Rs. 42,000 and the revenue Rs. 62,000.

The most noticeable feature in the commerce of the State is the large banking and exchange business carried on at the capital, and in the large towns of Shekhāwati. The chief exports are salt, cotton, *ghī*, oilseeds, printed cloths, woollen fabrics, marble images, brass-ware, and lacquered bracelets, while the main imports are English piece-goods, sugar, rice, tobacco, and hardware. The principal trade route is the Rājputāna-Mālwā Railway, which carries nearly the whole of the exports and imports. There is but little traffic northward from the capital, as the trade of Shekhāwati travels principally either north-east to the great mart of Bhiwāni in Hissār, or south-west to Ajmer. The principal export from Shekhāwati is wool, and the imports are grain, sugar, piece-goods, spices, and tobacco; for the carriage of these, camels are used almost exclusively.

The Rājputāna-Mālwā Railway traverses the State from east to west, with a total length, including the branches from Phalera towards Kuchāwan Road and Rewāri, and from Bāndikui in the Agra direction, of about 243 miles. The Darbār is constructing a line from the capital to Sawai Mādhopur in the south-east, a distance of 73 miles; it is estimated to cost 29 lakhs, exclusive of rolling-stock, and the first 32 miles, as far as Nawai, have recently been opened for traffic.

The total length of metalled roads is about 283 miles, and of unmetalled roads about 236 miles. These are all in charge of the Public Works department, and are maintained by the State; and all

but one were constructed entirely at the cost of the State. The exception is the trunk road from Agra to Ajmer, constructed between 1865 and 1869; its length in Jaipur is about 127 miles, and its cost was 6·5 lakhs, of which the British Government subscribed one-fifth. One small piece of road was built and is maintained by the British Government: namely, about 9 miles of the metalled road between Nasīrābād and Deoli. Other important roads are those connecting the capital with Tonk city, and Hindaun Road railway station with the town of Karauli.

The number of British post offices is 34, and of telegraph offices (excluding those at railway stations) 14. Up to about 1896 a heliograph from Jaipur to Fatehpur in Shekhāwati was maintained by the opium merchants of the latter town for use in their business. The State has had its own local postal system since about 1861. Letters and parcels on Darbār service are carried free. In 1901 there were 86 local post offices; and 227,072 letters, packets, and newspapers, and 326 parcels were delivered. The length of postal lines was 483 miles, the mails being carried by camels and runners; the income was Rs. 10,500 and the expenditure Rs. 17,100, including salaries of 304 employés.

Famine.

There is no record of famines prior to 1868–9. In 1868 the rainfall between June and September was only $5\frac{1}{2}$ inches, and the failure of forage was severe. All restrictions on the grain trade were at once abolished by the late Mahārājā, and large works were started, but they were, generally speaking, too near the capital. In August, 1869, the distribution of cooked food commenced at the capital, and more than 131,000 persons were fed up to March, 1870. Land revenue to the extent of a lakh was remitted, and the direct expenditure on relief works was reported to have exceeded 1·8 lakhs There was much charity by private persons, and not a little by the Darbār. Grain was never higher in price than 8 seers per rupee. In 1877 there was a grass famine, and 30 per cent. of the cattle perished, while in 1878 the rains were late and prices rose almost to famine rates, but the distress was partial and brief. Relief works were started, and 6,000 persons were employed daily for two months till the rains set in. In 1891–2 there was scarcity in the west and south-west. *Takāvi* advances were given, a portion of the land revenue was remitted, and the forest Reserves were thrown open for grazing. In 1899–1900 acute famine prevailed everywhere, except in the Hindaun and Gangāpur districts in the east, and in Kot Kāsim in the north-east, where there was only scarcity. The Darbār grasped the situation from the outset, and showed both skill and common sense in combining the various branches of relief. On the 98 relief works, mostly irrigation

projects, nearly 21 million units were relieved at a cost of 19 lakhs. In the villages and in the poorhouse at the capital 1½ million units were relieved gratuitously at a cost of a lakh. The forests were thrown open to free grazing, and the poor were permitted to remove and sell grass and firewood. Remissions of land revenue amounted to 12 lakhs, and *takāvi* was freely distributed. The estimated number of emigrants was 30,000, or about one per cent. of the population, and 40 per cent. of the cattle died. The scarcity of 1901–2 was confined to about one-third of the State, and was not severe. There was no gratuitous relief, but 693,000 units were employed on works at a cost of about 2 lakhs. *Takāvi* advances amounted to Rs. 41,500, and suspensions and remissions of land revenue to 3·9 lakhs and Rs. 24,100 respectively.

Administration.

The administration of the State is carried on by the Mahārājā, assisted by a Council of ten members. The Council consists of three departments: namely, financial; judicial; and foreign, military, and miscellaneous. There are three or four members in each department, which deals with its separate subjects in the first instance; but all matters of importance are brought before the whole Council, whose decisions are submitted to the Mahārājā for confirmation and sanction. The State comprises two main divisions or *diwānis*, called the Eastern and Western, each under a Revenue Commissioner or *Dīwān*. These *dīwānis* are divided into ten *nizāmats*, each under a *nāzim* and a *naib-nāzim*, while the *nizāmats* are subdivided into thirty-one *tahsīls*.

As in other States of Rājputāna, the civil and criminal courts of Jaipur are guided generally by the Codes of British India. The lowest courts are those of *tahsīldārs*, which number twenty-two, nine of these officials not being invested with judicial powers. They try civil suits not exceeding Rs. 50 in value, and on the criminal side can punish with imprisonment up to one month and fine up to Rs. 11; but the *tahsīldār* of Shekhāwati has enhanced powers. He and the ten *naib-nāzims* try civil suits not exceeding Rs. 100 in value, and in criminal cases can punish with imprisonment up to three months and fine up to Rs. 50. The ten *nāzims* can try any civil suit arising in their districts, while, on the criminal side, nine of them, the *nāzim* of Shekhāwati having special powers, can punish with imprisonment up to two years and Rs. 200 fine, and can pass a sentence of whipping not exceeding twenty-five stripes; they also hear appeals against the decisions in civil and criminal cases of their respective *tahsīldārs*, except in the case of the *tahsīldār* of Shekhāwati. The *nāzim* of Shekhāwati has the same original criminal powers as the *Faujdāri Adālat* mentioned below. For the disposal of civil suits not exceeding Rs. 300 in value, instituted at the capital, there are three Munsifs; similarly the less important criminal cases at the capital are decided

by two *naib-faujdārs*, who can punish with imprisonment up to six months and fine up to Rs. 100. The *Adālat Dīwāni*, or civil court, consists of two judges who, sitting separately, decide suits beyond the powers of the Munsifs, while jointly they hear appeals against the decisions of the *tahsīldār* of Shekhāwati, the *naib-nāzims*, and the Munsifs. The *Faujdāri Adālat*, or court of the chief magistrate, can punish with imprisonment up to four years and fine up to Rs. 400. It disposes of criminal cases beyond the powers of the *nāzims* (excluding Shekhāwati) and of the *naib-faujdārs*; it also hears appeals against the decisions of the *tahsīldār* of Shekhāwati and the *naib-nāzims*. The next court is called the Appellate Court, and consists of four judges, two on the civil and two on the criminal side. The former dispose of all appeals in civil cases against the decisions of the *nāzims* or of the civil court, while the latter, besides hearing appeals (in criminal cases) against the orders of the *naib-faujdārs*, *nāzims*, and the *Faujdāri Adālat*, try original cases beyond the powers of the latter, or of the *nāzim* of Shekhāwati, and can punish with imprisonment up to five years and fine up to Rs. 500. The Council is the highest court in the State and the final appellate authority in all matters, civil, criminal, and revenue. It deals with all the serious criminal cases beyond the powers of the Appellate Court, and, when presided over by the Mahārājā, can pass sentence of death on Jaipur subjects.

The normal revenue of the State is believed to be about 65 lakhs, the chief sources being land revenue (about 42 lakhs), customs (9 lakhs), receipts under the Salt treaty of 1869 and the agreement of 1879 (about 7·5 lakhs), and tribute from *jāgīrdārs* (4 lakhs). The normal expenditure is said to be about 59 lakhs, the main items being cost of civil and judicial staff[1]; army, including the Imperial Service transport corps (about 10 lakhs); public works, including irrigation (7 lakhs); tribute to Government (4 lakhs); police (about 2·4 lakhs); privy purse, palace, and charities[1]; education (Rs. 84,000); and medical institutions and vaccination (Rs. 70,000). The State is free from debt.

Jaipur has a coinage of its own, called *Jhār shāhi* from the special mint-mark, the *jhār* or spray of six sprigs or branches. The coins struck are gold *mohurs* (the metal being quite pure), rupees, smaller silver coins, and copper pieces. The rate of exchange between local and British currency varies almost monthly; in April, 1899, the local rupee was worth about 12 annas, while at the end of 1904 102 *Jhār shāhi* rupees exchanged for 100 British. The question of introducing British currency as the sole legal tender is under the consideration of the Darbār.

A peculiar feature of the State lies in the fact that about three-fifths

[1] Not available.

of its area has been alienated in grants to nobles, ministers, priests, or courtiers, thus leaving only two-fifths as *khālsa* or State lands proper. The alienated lands may be divided into those granted by the chief to members of his own family, on tenures of the nature of apanages, the holders performing no service, but paying quit-rent; those acquired by the ancestors of the present holders, such as SĪKAR and KHETRI, who pay tribute varying from one-fourth to one-twentieth of their revenue to the Darbār; those granted on the ordinary *jāgīr* tenure, for which no rent is paid but service is rendered; and those granted to temples, civil and military officers, court favourites, &c. The last are known as *ināms*, and are held rent-free and without any obligations as to service.

In the *khālsa* area several systems prevail. In some cases the land is leased either to the actual cultivator, or to a contractor for a specified term, and the land revenue is paid in cash in four instalments during the year. In places where no such lease is given, the cultivator pays land revenue in kind, and the amount varies according to his caste or tribe and the nature and capabilities of the soil. Muhammadans and the lower castes of Hindus pay the highest rate; Brāhmans the lowest. The cultivators are mere tenants-at-will; they have no hereditary rights in the land, but the right of cultivation descends from father to son, and is recognized by the State; it cannot, however, be transferred without the sanction of the Darbār. When land revenue is payable in kind, the share taken by the State varies from one-fifth to one-half of the produce; in the case of cash payments, the average rate per acre on 'dry' land is about Rs. 2 (maximum Rs. 4 and minimum 12 annas), and on 'wet' land about Rs. 5 (maximum Rs. 11 and minimum Rs. 1-12-0).

The opium produced in the State is insufficient for local requirements, the average area under poppy cultivation being about 4 square miles, and the drug is imported, generally from Kotah, Mālwā, and the Nīmbahera district of Tonk. The import and export duties are respectively Rs. 150 and Rs. 35 per maund, the revenue from these sources averaging about Rs. 2,000. Under rules issued in 1902 no opium can be imported or exported without a permit from the Darbār, while opium in transit is liable to be seized if not covered by a pass.

No salt is manufactured in the State save by the British Government at SĀMBHAR, nor is there any tax of any kind on this commodity. Under the treaty of 1869 and the agreement of 1879 the Darbār receives approximately a sum of 7·5 lakhs a year, including royalty on excess sales, as well as 7,000 maunds of salt free of all charges.

The Public Works department has, since 1860, been under a British officer lent by the Government of India, and it takes rank with any similar institution in British India. In addition to roads and buildings,

the department looks after the gas and water-works, the conservancy tramway, the cotton-presses, and the public gardens at the capital, and the numerous irrigation works in the districts. The sum available for expenditure averages about 7 lakhs a year, and the fact that between 1868 and 1901 more than 234 lakhs was spent through the department testifies to the wise and generous policy of the late and the present Mahārājās.

The military force consists of about 5,009 infantry divided into eight regiments, 5,000 Nāgas (irregular infantry), 700 cavalry, 860 artillery-men, and 100 camel *sowārs*. There are 60 old-fashioned guns of small calibre, and 50 *zamburas* or small camel-guns. Besides these forces, the *jāgīrdārs* keep up 5,782 horsemen who serve the Darbār. The State further maintains an Imperial Service transport corps. The raising of this corps commenced in 1889-90, and it was at full strength (1,000 ponies with two trained men to every three animals, and 400 carts) in 1893-4. The cost of raising and maintaining up to that year was nearly 7 lakhs; and the annual cost of maintenance in future was estimated at 2·1 lakhs. The corps accompanied the Chitrāl Relief force in 1895, leaving Jaipur within forty-eight hours of receipt of orders, and did well. In 1896 the Mahārājā added 200 ponies. In 1897-8 the corps served throughout the Tīrāh campaign, and its services were warmly appreciated. The present strength is 1,200 ponies, 558 folding iron carts, 16 ambulance tongas, and 722 officers, non-commissioned officers, and men; and the annual cost is 2·5 lakhs. The entire military expenditure of the State is about 10 lakhs. A small detachment from the 42nd (Deoli) Regiment is quartered at the Jaipur Residency for escort and guard duty, while at Sāmbhar are 3 non-commissioned officers and 18 men of the 44th Merwāra Infantry guarding the Salt department treasury. There are 117 members of the 2nd Battalion Bombay, Baroda, and Central India Railway Volunteer Rifles in the State: namely, 82 at Bāndikui, 28 at Phalera, and 7 at the capital.

The police may be divided into two bodies: namely, the city police under the *Faujdār*, with a strength of 855 constables and *chaukīdārs*, and the district police under a Superintendent. The latter force consists of 11 deputy-superintendents, 160 *thānadārs*, 582 constables, and 11,058 *chaukīdārs*. The combined forces cost about 2·4 lakhs a year. The principal criminal tribes are the Mīnās (who number 241,000) and the Baoris (1,177). The latter give little trouble, but the former have for a long time been a thorn in the side of the State. As already mentioned, there are two kinds of Mīnās, namely *zamīndārs* (cultivators) and *chaukīdārs* (watchmen), but they are difficult to distinguish. Some are honest *zamīndārs*, while others hold land as a screen behind which they can pursue avocations of another kind. Again, there are Mīnās

who serve as useful watchmen; and there are those who use their opportunities as such to steal the cattle of their own village, passing the animals on to confederates, and who then proceed to make money out of the real owners by arranging for the restoration of the stolen property. The Darbār has since 1897 taken up the question of settling down the Mīnās, and is trying to reclaim them.

Up to 1889 the only jail was at the capital; it had accommodation for about 370 prisoners, and was always overcrowded. The construction of an additional jail was started in 1887, and the building was completed and occupied by 1889. These two institutions, known respectively as the Central and the District jails, now have accommodation for 1,144 prisoners (1,034 males and 110 females). In 1904 the daily average number of prisoners was 961, and there was overcrowding in the Central jail, where all females are confined. Jail products include woollen carpets, which are famous and command a ready sale, cotton rugs, and dusters. Besides these prisons, small lock-ups are maintained in the districts, regarding which no particulars are available.

In respect of the literacy of its population Jaipur stands fourteenth among the twenty States and chiefships of Rājputāna, with only 2·52 per cent. (4·7 males and 0·1 females) able to read and write, according to the Census of 1901, yet in the number of educational institutions, the excellence of some of them, and the successes obtained at public examinations the State undoubtedly takes the lead. The number of pupils under instruction rose from 10,772 at the end of 1880–1 to 20,277 in 1890–1, but fell, in consequence of the famine of 1899–1900 and the sickness which followed it, to 16,010 in 1900–1, and has risen again to 23,952 by the end of 1904. In the year last mentioned, 10·9 per cent. of the male, 0·4 of the female, and 6 per cent. of the entire population of school-going age were under instruction. In 1904 there were 753 educational institutions in the State: namely, 151 public and 602 private. Of the former 77 are maintained by the Darbār, and 74 are under private management, though more or less under the supervision of the department: namely, 18 maintained by *jāgīrdārs*, 12 by the Jain community, 10 by the United Free Church of Scotland Mission, and 34 by bankers or private individuals. The public institutions consist of 3 colleges (noticed in the article on Jaipur City), and 25 secondary (of which 9 are Anglo-vernacular), 118 primary, and 5 special schools. The private institutions are of the indigenous variety (*chatsāls* and *maktabs*) conducted on primitive lines; 74 of them are classed as advanced and 528 as elementary. Of the 23,952 pupils under instruction in 1904, 1,742 were studying English (71 in the collegiate stage, 95 in the high school, 166 in the middle school, and 1,410 in the primary stage); 21,761 were studying the

vernaculars, including Sanskrit, Arabic, and Persian (139 in the collegiate stage, 86 in the middle school, and 21,536 in the primary stage); and 449 were attending the special schools, namely the School of Arts, the painting school, and the carpet-weaving schools, all at the capital. Of the total number under instruction at the end of 1904, 78 per cent. were Hindus, about 9 per cent. Muhammadans, and 12 per cent. Jains. There are eleven girls' schools in the State: namely, nine at the capital, one at Amber, and one at Sāmbhar; they were attended in 1904 by 797 girls. Education is provided free throughout the State, no fees being charged anywhere; and the total expenditure from all sources in 1904 was 1·3 lakhs, of which the Darbār contributed nearly 69 per cent. and the various *jāgīrdārs* about 10 per cent.

Including the small hospitals attached to the jails and the lunatic asylum, the State possesses 29 hospitals and dispensaries, which have accommodation for about 350 in-patients. Of these institutions, seven are maintained by *jāgīrdārs* and the rest by the Darbār. In [illegible] the number of cases treated was 209,041, of whom 3,937 were in-patients, and 10,808 operations were performed. The total expenditure was Rs. 66,700, excluding cost of supervision, buildings, repairs, and the like. All these institutions are supervised by the Residency Surgeon, who is also in charge of the small Residency hospital maintained by the British Government. In addition, hospitals at Bāndikui and Phalera are kept up by the Rājputāna-Mālwā Railway, and the Salt department has a hospital at Sāmbhar.

The lunatic asylum is in good repair, and the inmates are well cared for and properly controlled; 110 insane persons were treated in 1904, the daily average being 74.

Vaccination is nominally compulsory everywhere, but is especially backward in some of the *jāgīr* estates. In 1904-5 a staff of 47 vaccinators under 2 native superintendents and the Residency Surgeon successfully vaccinated 79,000 persons, or about 30 per 1,000 of the population.

[J. C. Brooke, *Political History of the State of Jeypore* (1868); *Rājputāna Gazetteer*, vol. ii (1879, under revision); T. H. Hendley, *Handbook of the Jeypore Courts at the London Indo-Colonial Exhibition* (1886), and *Medico-topographical Account of Jeypore* (1895); *Jaipur Census Report for* 1901 (Lucknow, 1903).]

Jaipur City (or Jainagar).—Capital of the State of Jaipur in Rājputāna, and also head-quarters of the Sawai Jaipur *nizāmat*, situated in 26° 55′ N. and 75° 50′ E., on the Rājputāna-Mālwā Railway and the Agra-Ajmer trunk road, being by rail 84 miles north-east of Ajmer, 150 miles west of Agra, 191 miles south-west of Delhi, and 699 miles north-east of Bombay. Jaipur is the largest city in Rājputāna, its area,

including suburbs, being 3 square miles. Its population at the three enumerations was: (1881) 142,578, (1891) 158,787, and (1901) 160,167. The small increase during the last decade of less than one per cent. occurred entirely in the suburbs, the population of the city proper being less by 330 than in 1891. The latter circumstance was largely due to the year 1900 having been a very unhealthy one; 13,874 deaths occurred within the city walls, or a rate of nearly 105 per 1,000, compared with an average for twenty-six years of about 45 per 1,000. Cholera prevailed almost incessantly till September, and a severe outbreak of malarial fever immediately followed. Hindus number 110,601, or 69 per cent. of the total; Musalmāns, 40,386, or 25 per cent.; and Jains, 8,726, or 5 per cent.

The city takes its name from the famous Mahārājā Sawai Jai Singh, by whom it was founded in 1728. It stands on a small plain conjectured to be the bed of a dried-up lake, and is surrounded on all sides except the south by rugged hills, the summits of which are crowned with forts at all important points. At the end of the ridge, about 500 feet above the city on the north-west, is the chief defensive work, the Nāhargarh or 'tiger fort,' the rock face of which is so scarped as to be inaccessible on the south or city side, while on the north the ridge slopes towards AMBER. A masonry crenelated wall, averaging in height 20 feet and in thickness 9 feet, encloses the whole city. In the wall are seven gateways, all built on the same pattern, with two kiosks above and machicoulis over the entrance, and at intervals are bastions and towers pierced for cannon, while the parapet is loopholed for musketry. The city is remarkable for the regularity and width of its streets. Tod described it as being as regular as Darmstadt and the only city in India built upon a regular plan. It is laid out in rectangular blocks, and divided by cross streets into six equal portions, which are in turn intersected at regular intervals by narrower alleys. The main streets are 111 feet in width, the secondary ones 55, and the smaller 27½ feet. The Mahārājā's palace forms an imposing pile in the centre, occupying with its pleasure-grounds about one-seventh of the city area. To the north of the palace is the Tāl Katora tank, enclosed by a masonry wall, and beyond it again is the Rājā Māl-kā-talao, about 100 acres in area and stocked with crocodiles. One of the most interesting antiquities of the State is the observatory (*jantra*) erected by Sawai Jai Singh. The instruments, consisting of dials, azimuth circles, altitude pillars, &c., are of huge size, and have recently been put in order under the supervision of an officer lent to the Darbār by the British Government.

The main streets, the large public institutions, the palace, and some private residences are lighted with gas at a cost of about Rs. 28,000 a year. Since 1874 good drinking-water has been brought into the

city from the Amān-i-Shāh river, about 1½ miles west of the Chānd Pol gate. Pumping engines raise the water to a height of 109 feet, where it is stored in covered reservoirs and thence delivered in the city in iron pipes under 50 feet pressure. The daily average consumption in 1904 was 497,000 gallons, or about three gallons per head, and the cost of maintenance was Rs. 28,170. There has been a municipality since 1868; the board consists of 26 nominated members, including a health officer and an engineer. All the receipts are paid into, and the entire expenditure is met from, the State treasury. The refuse of the city is removed by a light tramway drawn by buffaloes, and incinerators have been erected at convenient spots. The principal arts and industries are dyeing, carving in marble, enamelling on gold, pottery, and brass-work. The School of Art, opened in 1868, has done much useful work; drawing, painting, sculpture, wood-carving, pottery, and working in gold and brass are taught, and the daily average attendance in 1904 was 81. For such a large place very little trade is carried on, but there is an extensive banking and exchange business, and Jaipur has been described as a sort of Lombard Street to Rājputāna. Outside the city are two steam hydraulic cotton-presses started in 1885. In 1904, 12,910 bales were pressed, the net revenue being Rs. 13,444, or a profit of about 6 per cent. on the capital cost. Jaipur is amply supplied with educational institutions. Including 113 indigenous schools (*chatsāls* and *maktabs*) attended by 2,535 children, there were, in 1904, 151 educational institutions, and the daily average attendance was 4,446. The Mahārājā's College deserves special mention. It was started in 1845, the curriculum consisting of Urdū and Persian with the rudiments of English; it became a high school about 1865, a second-grade college in 1873, and a first-grade college in 1897. The daily average attendance in 1904 was 54, and the expenditure Rs. 24,900. Since 1891, 67 students from the college have passed the B.A., and 4 the M.A. examination. There are two other colleges in the city: namely, the Oriental College, teaching up to the highest standards of the Punjab University examinations in Arabic and Persian; and the Sanskrit College, preparing boys for the title examinations in that language. In 1904 the daily average attendance at the former was 25, and at the latter 56. The city is also well supplied with medical institutions, there being three dispensaries for out-patients, two jail hospitals, a lunatic asylum, a small hospital attached to the Residency, the Lansdowne Hospital for the use of the Imperial Service transport corps, and the Mayo Hospital. The latter, with its recent additions, detached operating room, private and eye wards, is one of the most completely equipped hospitals in India and has beds for 125 in-patients. The two jails are outside the city walls and have accommodation for 1,144 prisoners. Besides cotton rugs

and dusters, good woollen carpets are manufactured. In the beautifully laid out Rām Newās public gardens, which are 76 acres in extent, and are maintained at a cost of about Rs. 17,000 a year, is the Albert Hall, a large museum of industrial art and educational models, and the principal architectural feature of the place. It is named after King Edward VII, who, as Prince of Wales, laid the foundation-stone on February 6, 1876.

Jaipur Village.—Village in the Dibrugarh subdivision of Lakhimpur District, Eastern Bengal and Assam, situated in 27° 16′ N. and 95° 23′ E., on the left bank of the Buri Dihing river. There are deposits of coal and oil-bearing strata in the neighbourhood, and the place is a centre of local trade.

Jaipur.—*Zamīndāri tahsīl* and estate in Vizagapatam District, Madras. *See* JEYPORE.

Jais.—Town in the Salon *tahsīl* of Rāe Barelī District, United Provinces, situated in 26° 16′ N. and 81° 33′ E., on the Oudh and Rohilkhand Railway, and on the road from Lucknow to Sultānpur. Population (1901), 12,688. It is said to have been originally a Bhar fortress called Udayanagar or Ujālekānagar. Tradition relates that the place was stormed by an officer of Saiyid Sālār, and its modern name is derived from the Persian *jaish*, 'a camp.' The Jāma Masjid is the chief building. This was built with the materials of an old Hindu temple, and was restored by Ibrāhīm Shāh of Jaunpur. Other fine buildings were erected in the seventeenth and eighteenth centuries. Jais is celebrated as being the birthplace of Muhammad Jaisī, author of the vernacular poem called the *Padmāvati*, who lived early in the sixteenth century. Excellent muslin was formerly manufactured here; but the industry has declined. There is, however, some trade in grain, tobacco, and coarse cotton cloth. The town contains a dispensary and a flourishing school with 137 pupils.

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